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ABSTRACT

This manual presents item-by-item, step-by-step procedures for the student being trained as a technician in laboratory animal care. Statements are preceeded by a box for the student to check when he has read each statement. The first 16 lessons cover: orientation; identifying, handling, and determining the sex of rodents and rabbits, cats and dogs, non-human primates, and farm animals; animal feeds and bedding; caging; special caging; and identifying tools, supplies, special clothing, and machinery. The other lessons pertain to recognizing and reporting disease in laboratory animals; inspecting the environment; cleaning, feeding, and watering animals in direct and indirect bedding cages; caring for animals in pens and special cages; restraint of the animal groups mentioned; blood collection and injection; surgery and euthanasia; vital signs; receiving and shipping rodents and rabbits; receiving large animals; and gnotobiology and breeding colonies. Notes to the instructor are interspersed among the 30 lessons. Most of them serve as suggestions for demonstration, practice, and mastery exercises. The exercises and an audio-visual component are meant to accompany the material presented in the manual. (AG)

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LABORATORY ANIMAL CARE

TRAINING MANUAL
FOR
INSTRUCTORS AND STUDENTS

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A Training Course
prepared by
The Animal Care Facility
and
The Communications Office for Research and Teaching
The University of California at San Francisco

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The final acknowledgements to the many people who have contributed to the development and production of Laboratory Animal Care is still in preparation. It will appear in the first edition.

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with the

Animal Resources Branch

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Department of Health, Education and Welfare

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INSTRUCTOR:

If the student doesn't know which form of public transportation is best for him, find out for him

- the best route
- the length of time it will take

Lesson 1

ORIENTATION

TO LABORATORY ANIMAL CARE

SCHEDULE CHART

☐ VIEW Audio-visual Demonstration Exercise, summarized on pages 1-1 through 1-19, in Room __________. View it as many times as you want.

☐ MEET ____________________ at __________ on __________
Instructor time date

in _________________________ ~~for Practice and Mastery~~
room and bldg.

~~Exercises.~~

To complete the information on pages 1-2 to 1-8.

INTRODUCTION

This manual is to be used by students and instructors participating in the LABORATORY ANIMAL CARE course.

The sequence followed in teaching this course is:

1. Facility Director appoints Coordinator of Instruction (COI)
2. COI and all Supervisors meet and preview all audio-visual material, then do reading assignments in the Pre-Training Manual.
3. All Supervisors take LAC as students with COI as Instructor.
4. All Animal Technicians take LAC as students, with COI or Supervisor acting as Instructor.
5. COI gives the final Mastery examination to all students.

Before using this manual Supervisors should have discussed the material in

LABORATORY ANIMAL CARE

Pre-Training Manual

When Instructors have read and discussed the Pre-Training Manual, they begin LAC with the facing pages.

Students should turn to page [illegible]. 1-9 & view A-V Lesson)

Instructor:

Before meeting with students, do the following:

Review the information on pages 1-1 through 1-~~19~~8 and obtain any information from the Business Office or elsewhere that you will need to help the student fill in all appropriate blanks.

If any of the items of pages 1-1 through 1-19 do not apply to your facility, mark them out or change them so that they do match.

View the A-V presentation for Lesson 1.

ONLY AFTER you have done all of the above:

Using the Demonstrate-Practice-Mastery technique, show the Student how to use the A-V device.

Have the Student view the A-V for Lesson 1 as many times as he would like.

Meet with the Student and have him fill in all appropriate information.

When all of the above steps have been done, check this box ☐.

LESSON 1

Orientation to Laboratory Animal Care for Animal Technicians

Have your Instructor help you fill in the following sentences. When you are through with these pages, you will have an over-all view of your new job and you will be able to understand where you fit into the larger picture of the animal facility. This is information that you will be able to refer to later and to rely on.

My supervisor is ____.
(Name)

My alternate supervisor is ______________________________.
(Name)

The title of my job is ___________________________________.

Its classification in the institution is _________________.

My duties on this job, basically, are _____________________
____
____
____.

My starting pay is $______________, which I will receive in the form of ________________ every ________________.

The total amount deducted will be $______________.

Among the deductions made are:

$____________ for Federal income tax $____________ for state income tax
$____________ for city tax $____________ for social security
$____________ for the retirement plan $____________ for group insurance
$____________ for ________________ $____________ for ________________

The deduction for insurance covers a ______________ policy.

I may join our retirement plan after I have worked here ____ months.

For every ______ I contribute, my employer contributes __________.

If I leave the job, I will take with me __________ of this fund.

I must join this plan within __________ after I become eligible or I cannot join thereafter.

I may join the credit union after I have worked here for ________ months. Money will generally be loaned to me at ______% interest which I must repay regularly. I must join the credit union within ________ months after I become eligible or I cannot join thereafter.

If I should need an advance on my salary, I will speak to

________________________________.

I understand that advances on pay are given only if ____________

____

____.

There are several kinds of salary increases:

scheduled raises, which occur ______________________________

merit raises which are ______________________________

promotions ______________________________

reclassifications ______________________________

cost-of-living increases ______________________________

holiday bonuses ______________________________

The ways in which I can get a promotion are ____________________

____

____

My regular work schedule is _____ hours a week, as follows:

Employees may take coffee breaks of______minutes each at________ and_____________.

Lunch hour is__________minutes, from_________to______regularly, or I may arrange another time with my supervisor.

The time clock for my department is at___________________________.

My supervisor will show me where my card is and how to use the clock. I must punch in and out:

at the beginning of the work day

at the end of the work day

each time I leave the building

each time I enter the building

I receive the following holidays:

____

____

____

The rules about holiday pay are:

____

____

____

If for any reason I cannot report to work on any day on time, I must notify my supervisor,_______________________

as early as possible

before__________o'clock

between__________o'clock and____________o'clock

My supervisor's phone number is:

Overtime beyond the regular number of hours in the work week is paid for at the rate of_______________________.

I understand that this overtime is paid for:

as part of the next regular check

with a supplemental check

as part of the check following the next regular one

I may (not) refuse to work overtime when I am asked to.

Before becoming a permanent employee, I must spend ________________ as a probationary employee.

For every ______________________ service, I earn _____________ sick leave.

Sick leave

is cumulative, and any I do not take is held over from year to year

must be taken within the salary year in which it is earned

may be added to vacation time and used up in the year it is earned

For every _____________________ service, I earn _____________ vacation time. This amounts to _______________ a year.

Vacation time

is cumulative, and I may defer any part of it to another year.

But ____________________ must be taken every year.

vacation time must be taken in the year following the one in which it is earned or it is lost

vacations are figured in a year beginning in _________ and ending __________________________.

Vacations must be scheduled with my supervisor, ____________________, so as not to interfere with the department's work.

The vacation schedule will be circulated beginning in _______________.

Those senior to me in my department may choose first, so the time I ask for at first may or may not be available.

Instructor:

☐ If the student doesn't know which form of public transportation is best for him, find out for him

the best route

the length of time it will take

☐ Tour the student through the facility. Introduce him to people and explain to him the function of each sub-department.

No vacation of more than ____________ or less than __________ may be taken at one time.

My schooling can continue

on my own time

with time off with pay

in a funded program paid for by my employer

in extension courses within the institution

The personnel office will help me select a program. _______________ is the person I talk to in personnel about continuing education.

Other benefits available to me on this job are ________________

____

____

____

____

The key to my locker is obtained from ____________________________.
(Name)

My locker number is _________________________.

The facility will (not) supply me with a (combination lock)(padlock).

There is (not) a parking lot for employees.

The monthly parking fee is ____________________________.

Each car that uses the lot must carry a parking sticker on its

_____________. The sticker is obtained ___________________________.

I will take the following transportation to work:

____

____

In order to arrive at work on time, I should leave my house at

____________________________.

Notices of car pools are posted at ____________________________.

During working hours, I must (do not have to) wear a uniform.

This uniform is

given to me by the facility

purchasable for $________________at__________________________.

Uniforms are cleaned by

me

the institution

I pick up clean uniforms at______________________________.

I deliver dirty uniforms to_______________________________.

Uniforms are changed in the following days:___________________________

____.

A pay telephone for outgoing calls is at__________________.

Incoming personal calls are (not) limited to emergencies.

No visitors are allowed in the animal rooms. Visitors are to go to room_________________, from where I will be called to meet them.

The sections (or subdepartments) of the animal facility include:

Animal house (or vivarium), which takes basic care of the animals.

Business office, which purchases things, pays out salaries, and so forth.

Veterinary section, which sees to the animals' health

Diagnostic laboratory, which performs specialized tests.

Radiology, which does the x-raying

Surgery, which performs operations on the animals.

Each of these has its own important job to do. At one time or another, anyone working in one section may have more or less to do with any other. For example, a technician taking care of a group of animals may have to notify the veterinary section that some of his animals look as if they are ill.

☐ The technician is a MEMBER of a TEAM whose job is to provide a service to the people who run animal research projects. The team members should cooperate fully, helping each other to do whatever is necessary for the team's success in research.

☐ A MEDICAL RESEARCH TEAM works together to fight disease.

☐ Among the diseases STILL unbeaten are cancer and sickle-cell anemia, to mention only two.

☐ SOME VICTORIES have already been won - over polio, diabetes, tuberculosis, for example.

☐ Study of such PROBLEMS as heart transplants and better diets has required medical research.

☐ A good deal of this research means using ANIMALS.

☐ Pasteur, a French scientist of many years back, used DOGS to develop a treatment for RABIES.

☐ INSULIN, the drug DIABETICS use to stay healthy, was studied using DOGS.

☐ The SULFA drugs were developed by experiments with MICE and RATS.

☐ CANCER has given up some of its secrets during experiments on laboratory MICE.

☐ MONKEYS were used in POLIO research.

☐ Using animals in the laboratory helps make BOTH MEN and ANIMALS HEALTHIER.

☐ This course on LABORATORY ANIMAL CARE has been put together to teach how to take the BEST POSSIBLE CARE of laboratory animals.

☐ In this country, THOUSANDS of places take care of MILLIONS of animals for laboratory use.

☐ The laboratory animal technician therefore has a good chance of making animal care his CAREER, with MANY possibilities for advancement.

☐ The job of animal technician can be just a starting point.

☐ Animal technicians are needed by hospitals, research laboratories, pharmaceutical companies, medical, dental, or veterinary schools, animal breeders, government research agencies, U.S. or state departments of public health, and zoos.

☐ Employment at any of those institutions is a career opportunity. In each of them, there are positions above that of entry-level technician.

☐ The technician-trainee should begin asking

- * what these other positions are
- * what they pay
- * what kinds of skills they involve
- * how to apply to be moved to the higher position

☐ The supervisor or the personnel department can be of great help in answering questions along these lines.

☐ There are also careers in related fields, such as laboratory assistant or surgical technician. It may be of great personal interest to look into one or another of these fields.

Higher paying jobs require additional (perhaps for difficult) skills, carry greater responsibility, and often need greater knowledge.

☐ An employee can prepare himself for advancement.

☐ Ask about what educational programs are available.

☐ Find out what AALAS is and how its training courses and certification system work, about the Purina Manual for Laboratory Animal Care, and other courses and aids.

☐ See if there are other workshops and programs you can take part in.

☐ Look to see what journals, books, and other publications exist in the field of animal care.

☐ This course, LABORATORY ANIMAL CARE, will teach you the basic skills you need to know to be successful on the job.

☐ Going further is up to you.

And there are many people willing to help you, if you ask.

☐ With EXPERIENCE comes LESS NEED for supervision.

☐ As the VALUE of the technician to his facility grows, so do his CHANCES of promotion and more pay.

☐ EXPERIENCE with animals is BASIC and important.

☐ But there are also ON-THE-JOB TRAINING programs to teach the technician more things.

☐ Further SCHOOLING is also possible.

☐ There are, naturally, DRAWBACKS to the job too.

☐ SOME animals are hard to handle, or they bite, or they may have serious diseases that the technician might catch.

☐ Cages and equipment can be HEAVY.

☐ Some of the animal SMELLS are bad, though with time the technician gets used to them.

☐ Keeping the animals and their rooms CLEAN will help make them nicer to be around.

☐ A second team the technician works with consists mainly of the investigator, who plans the experiment and conducts the research, and who buys the animals and pays the animal facility to care for them; his laboratory technician, who carries out tests and gathers facts; his animal technician, who takes care of the animals, observes them often for any changes in their condition, and is specially trained to handle and restrain animals.

☐ The INVESTIGATOR, the one running the experiment, is very much interested in the CARE the animals get.

☐ The investigator STUDIES disease, or diet, or operations, or something else of medical or biological interest, and USES ANIMALS in his study.

☐ NOTHING must happen to the animals that will give a wrong answer on an experiment.

☐ So if an animal LOOKS sick, the vet MUST know and check it.

☐ Or if the animals are getting the WRONG FEED, or didn't get WATER, the supervisor of those particular animals MUST know.

☐ The investigator may be a medical doctor, or a dentist, or a pharmacist, or a psychologist studying animals to see what people may do, or a space scientist testing what might happen on space flights.

☐ Being on two different "teams" (the facility's and the investigator's) can sometimes cause the animal technician to feel confused. The best thing to do in such a case is to go to the supervisor and talk the problem over with him. Usually the supervisor can suggest a way around the problem, and always the chance to talk over trouble with someone else brings a fresh look - and perhaps a solution - to something that is causing trouble.

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☐ To begin with, ANIMALS need pretty much what PEOPLE need:

- food
- water
- balanced diets
- a clean, uncrowded place to live and sleep
- a regular, routine schedule

☐ Animals, like people, can get SICK or HURT.

☐ The doctor who treats animals is a VETERINARIAN, or vet.

☐ Animals are used in MEDICAL RESEARCH

- to try out new drugs
- to work out ways to do new operations
- to discover safe ways of doing certain things

☐ So animals are TAKEN CARE of to keep them from getting sick.

☐ Sick animals would mess up an EXPERIMENT.

☐ The ONE PERSON who sees animals MORE than any other is the TECHNICIAN, the one who takes care of them every day.

☐ The technician has the BEST CHANCE to see and report things that are unusual or different.

☐ Paying CAREFUL ATTENTION to the animals and the animal rooms is the MOST IMPORTANT PART of the animal technician's job.

☐ Any animal facility wishing national recognition (accreditation) must follow the standards of AAALAC, which are based for the most part on the NIH Guide. Standards are established for:

- size of cage and number of animals per cage
- sanitation practices
- personal hygiene and personal health program
- feeding, watering, and identification of laboratory animals
- diagnosis, control, and treatment of animal diseases
- quarantine and isolation of animals
- euthanasia
- animal surgery and postsurgical care
- emergencies
- transportation of animals

☐ When you are finished with this course on LABORATORY ANIMAL CARE, you will either know how to act in any of these areas, and have a working knowledge of the regulations, or you will know whom to ask or where to check about problems in this field.

☐ Other laws and regulations: Some states have laws about animal care, and every facility has its own regulations based on the laws and standards mentioned.

☐ What is an experiment and what part does the animal technician play in it?

☐ An experiment is a controlled test of something (a procedure, a food, a drug, etc.)

☐ The experimental variable: A va[illegible] is a difference of conditions or a condition that can b[illegible]anged, such as temperature or amount of food.

☐ In an experiment, every condition but one should be the same for the different animals or groups of animals.

☐ Test group vs. control group: The group (or groups) subject to the experimental variable is called the test group.

☐ The group that does not receive it is called the control group.

☐ There may be several test groups, each receiving some different percentage of a drug, for example, but they differ from the control group only in that one way.

☐ If the animal technician fails to keep conditions the same for both groups, then he has allowed other variables, possibly, to spoil the experiment.

☐ Results of the experiment: No safe conclusions about results can be made from an experiment where there were uncontrolled variables.

☐ The investigator cannot tell which variable caused which result.

☐ The technician's responsibility: The technician should make no changes in bedding, food or water, cage population, or anything else without specific instructions from his supervisor.

☐ If he makes an error of some kind, he must report it immediately.

☐ It may be that he has ruined the experiment as a result of the mistake.

☐ This could lead to the experimenter coming to wrong conclusions, which might further lead to medical procedures that are dangerous and deadly.

☐ On the other hand, the error may be correctable, so it is extremely important for the technician to report it immediately.

☐ Federal and state LAWS and ORGANIZATIONS check to make sure that animals used in laboratory research are treated well.

☐ The animal technician does not have to know the texts of these laws.

☐ But he should be aware that they exist, and why and how they are enforced.

☐ He must learn to perform his job so that he will observe these laws.

☐ Federal: In 1966 and 1970, Congress passed animal welfare acts, calling for humane handling, care, treatment, and transportation of laboratory animals.

☐ A representative of the U.S. Department of Agriculture (USDA) inspects each animal facility about once a month to make sure that regulations are being followed.

☐ Failure to follow the regulations might result in a facility's not being allowed to do any further animal research.

☐ Government agencies and professional organizations: In addition to the federal laws, there are also the regulations of such government agencies as the National Institutes of Health (NIH) and of such professional organizations such as the American Association for Accreditation of Laboratory Animal Care (AAALAC).

☐ NIH has outlined animal care standards in DHEW Publication No. (NIH) 73-23, Guide for the Care and Use of Laboratory Animals.

ABOUT THIS COURSE

☐ This LABORATORY ANIMAL CARE course is to TRAIN technicians in how to do their job BETTER and to keep TROUBLE from happening.

☐ There are SEVERAL PARTS to the course.

☐ There is an AUDIO-VISUAL part, like a movie where you see and hear the lesson.

☐ There is a DEMONSTRATION exercise.

☐ There are PRACTICE AND MASTERY exercises on the lesson just finished that are done while the technician visits the different parts of the animal facility he actually is working in.

☐ The SUPERVISOR is there to help in the DEMONSTRATION and even in the mastery exercises if he is needed.

☐ The MASTERY EXERCISE is meant to find out if the technician UNDERSTANDS the lesson and can DO the things that will prove he has learned it.

☐ Since each facility throughout the country DIFFERS in some ways from all the others, the individual things that differ will be EXPLAINED by the supervisor who is teaching the lesson

☐ The course cannot cover EVERY different detail.

☐ One BASIC RULE the course teaches is this:

> If you are not sure about something, find your supervisor and ask him what to do.

☐ That way you get an ANSWER, while if you don't ask you may MESS UP something, like an experiment.

☐ REMEMBER: There are RULES to be observed on every job.

☐ A very important rule is SHOW UP ON TIME OR CALL IN.

☐ Remember that you are PART of a team taking care of laboratory animals.

☐ Take additional safety precautions in the course of your work - for your own protection as well as that of your co-workers and the animals.

☐ Some of the precautions listed below are meant to help prevent on-the-job accidents or injuries. They will be discussed in greater detail throughout the course.

- Know the proper way to lift heavy equipment or bags of feed.
- Know the proper way to handle and restrain animals
- Use the right equipment and/or protective clothing when handling or restraining animals.
- Report any bite or injury immediately. GET FIRST AID
- Observe all warning signs - RADIOACTIVE, BIOHAZARD, TOXIC, DANGER, or others.
- Follow the manufacturer's instructions carefully when mixing solutions.
- Know the location of fire boxes and fire exits, and how to use fire extinguishers.
- Be sure you know how to operate a machine before even turning it on, let alone attempting to run it.
- Dispose of used or waste materials properly.
- Know the proper traffic pattern in the facility for transporting clean or dirty loads.

Instructor:

☐ Make sure you have discussed with the technician the details of the following:

- Attendance
- Being on time
- Reporting errors
- Humane treatment of the animals
- Safety precautions

☐ Check to see if you have forgotten to tell the employee about:

- The supervisor's name, and where he can be found
- If the "buddy system" is used, the name of the co-worker
- The work area assigned to him
- The location of the locker room, and the combination for the lock or the location of the key to the room
- He must know also if he is to supply his own lock
- Available transportation systems for travelling to and from work, and timetables.
- Parking facilities and regulations
- Where are, when to get, uniforms. If the costs of these will be deducted from the technician's pay check, he must be told.
- Rules of the facility dealing with visitors and telephone calls.
- Acquaintance with local or national professional organizations, such as AALAS.
- Introduction to his fellow employees.

☐ The animals are not going to go away if you don't come in, and SOMEONE has to take CARE of them.

☐ If you are LATE or ABSENT, someone else - maybe everyone else - on the team has to WORK HARDER to get your job done as well as theirs.

☐ If you do REPORT REGULARLY and on time, your supervisor will know it and REMEMBER it at promotion or raise time.

Instructor:

Before meeting with Students, do the following (check when done):

- ☐ Review the Practice and Mastery Exercises at the end of this Lesson.
- ☐ Review the A-V Lesson.
- ☐ Make notes regarding any facility differences (procedures that differ from those shown in the A-V presentation). Space is provided on the left-hand pages of this manual.
- ☐ Prepare an area for the Practice and Mastery sessions.

Only after you have done all of the above:

- ☐ Have the Student view the A-V as many times as he likes.
- ☐ Take the Student to the appropriate area so he can practice the skills described on the practice sheet.
- ☐ When you feel that the Student has mastered the material, take the Mastery Exercise sheet and follow directions exactly as written.

MASTERY EXERCISE

LESSON 2

INSTRUCTOR: AFTER THE STUDENTS HAVE COMPLETED THE PRACTICE EXERCISE FOR LESSON 2, TAKE A COPY OF THE MASTERY EXERCISE AND GO TO THE ROOM(S) IN WHICH THE MASTERY EXERCISE WILL BE HELD.

SAY "We are going to identify rodents and rabbits. Please wait outside the room until I call you in, one at a time. When I call you in, I'll point to different animals. When I point, tell me if the animal *is* a rodent or *isn't* a rodent. Then tell me what kind it is."

GO INTO THE ROOM WITH THE FIRST STUDENT. LEAVE THE OTHER STUDENTS OUTSIDE THE ROOM.

POINT TO A RODENT OR RABBIT AND SAY "Is that a rodent or a rabbit? If it's a rodent, which kind is it?"

IF THE STUDENT GIVES A WRONG ANSWER, DON'T SAY ANYTHING RIGHT AWAY. WAIT FOR A MINUTE TO GIVE HIM A CHANCE TO CHANGE HIS ANSWER.

IF THE STUDENT STILL DOESN'T KNOW THE RIGHT ANSWER, REPEAT THE PRACTICE EXERCISE WITH HIM. THEN COME BACK TO THE MASTERY EXERCISE, TO MAKE SURE THAT HE HAS MASTERY OF THE SKILL BEFORE YOU GO ON.

WHEN THE STUDENT GIVES A RIGHT ANSWER, SAY "good" OR "right."

REPEAT THE PROCEDURE FOR ALL THE ANIMALS IN THE ROOM, IF THERE IS MORE THAN ONE KIND.

THEN REPEAT THE ABOVE PROCEDURES IN THIS ROOM WITH EACH OF THE REMAINING STUDENTS.

IF THERE ARE OTHER ROOMS TO BE USED IN THIS EXERCISE, PROCEED AS ABOVE UNTIL ALL THE RODENTS AND RABBITS HAVE BEEN IDENTIFIED BY EACH STUDENT.

AS EACH STUDENT FINISHES CORRECTLY, SIGN HIS LESSON CERTIFICATE.

Instructor:

Before meeting with Students, do the following (check when done):

☐ Review the Practice and Mastery Exercises at the end of this Lesson.

☐ Review the A-V Lesson.

☐ Make notes regarding any facility differences (procedures that differ from those shown in the A-V presentation). Space is provided on the left-hand pages of this manual.

☐ Prepare an area for the Practice and Mastery sessions.

Only after you have done all of the above:

☐ Have the Student view the A-V as many times as he likes.

☐ Take the Student to the appropriate area so he can practice the skills described on the practice sheet.

☐ When you feel that the Student has mastered the material, take the Mastery Exercise sheet and follow directions exactly as written.

Lesson 2

IDENTIFYING RODENTS AND RABBITS

SCHEDULE CHART

☐ VIEW Audio-visual Demonstration Exercise, summarized on pages 2-1 through 2-6, in Room ________. View it as many times as you want.

☐ MEET ________ at ________ on ________
Instructor time date

in ________ for Practice and Mastery
room and bldg.

Exercises.

Instructor:

☐ Watch for differences between the animal descriptions given in this book and those animals handled in your facility. Discuss these differences with the technician.

☐ A reminder: Do not add information to this entry-level course that isn't necessary to the technician in performing his job.

☐ Do you have these animals in your facility?

mouse _____
rat _____
hamster _____
guinea pig _____
rabbit _____

☐ Are there others that you have?

____
____
____
____
____

☐ How are these distinguished?

☐ Are there strains of rodents and rabbits in your facility? Is it necessary for the technician to tell what they are? How are these distinguished?

☐ Rodents include MICE, RATS, HAMSTERS, and GUINEA PIGS.

☐ We will also examine a related animal that is not a rodent, the RABBIT.

☐ Mice, rats, hamsters and guinea pigs are called RODENTS because they have similar characteristics. For example, they all have prominent front teeth.

☐ An ALBINO animal is one that has white fur, pink skin, and pink eyes. Albinos occur in many kinds of animals besides rodents.

☐ A STRAIN is a type of animal specifically bred to bring out a certain kind of inherited strength or weakness. For example, some strains of mice are much more likely to develop tumors than normally bred mice. This characteristic has been deliberately developed in mating mice which show this tendency.

☐ The MOUSE has a SLENDER BODY, LONG pointed SNOUT, PROMINENT round EARS, LONG FLAT front TEETH that protrude slightly.

☐ It weighs about 1 OUNCE (30 gm).

☐ It is about 3 INCHES long (7.5 cm) to the base of the TAIL, which is also 3 INCHES long and HAIRLESS.

☐ Mice used in the laboratory are usually WHITE or BROWN, but sometimes black.

☐ White mice are usually ALBINOS.

In addition:

Mice can be excitable.

They are vocal, constantly squeaking.

Mice can BITE, but are usually relatively easy to handle.

MALE mice often fight among themselves.

☐ The RAT looks like a mouse but is BIGGER and HEAVIER.

☐ The rat weighs as much as 7 or 8 mice, usually about 1/2 pound (240 gm) but perhaps up to 1 POUND (480 gm), and is TWICE as long (10-12 INCHES - 25-30 cm), including the tail.

☐ The rat's TAIL is THICKER than the mouse's.

☐ The rat's TEETH are FLAT and LONG like the mouse's, and even more prominent.

☐ Laboratory rats are different from wild rats. Research rats are well fed and usually do not carry diseases transmittable to man.

☐ Their colors are WHITE (albino) or BLACK-AND-WHITE, or brown.

In addition:

Lab rats come from an animal breeder and have been cared for from birth.

They are usually tame or can become tame through handling.

Rats are quite intelligent. They respond to kind treatment and will develop confidence in the technician. If they are not treated kindly, they can be uncooperative and will bite.

Rats do best with a minimum of disturbance or change.

Rats are unusual in at least one thing: they CANNOT VOMIT.

☐ The HAMSTER is quite different.

☐ It is SMALLER than the rat, but LARGER than the mouse.

☐ It weighs 4 to 5 OUNCES (120-150 gm), and is 5 to 6 INCHES (12.5-15 cm) LONG, including the tail.

☐ The hamster has a LITTLE furry TAIL.

☐ Its SNOUT is not as pointed as the rat's.

☐ It has CHEEK POUCHES like a squirrel.

☐ The hamster's TEETH are like the mouse's and the rat's: FLAT and LONG.

☐ The lab hamster is usually GOLDEN in color with a WHITE BELLY, sometimes with black streaks on the face.

In addition:

Hamsters have much excess skin, mostly on the back of the neck, where there is 2 or 3 inches (5-7.5 cm) of skin fold.

Untamed hamsters can bite vigorously.

FEMALE hamsters fight each other when caged together.

Hamsters are nocturnal (active at night). If the lighting schedule is changed, they change their activity schedule to match the periods of darkness.

Hamsters, especially females, are skilled escape artists.

Be certain that CAGE DOORS and LIDS are firmly closed and that latches cannot be opened from within.

After a hamster has been handled, it will spend much time grooming.

If the room temperature drops too low, a hamster may go into hibernation. As if in winter, it will burrow into its bedding and go into a deep sleep.

☐ The GUINEA PIG is the largest laboratory rodent.

☐ It is about 10 INCHES (25 cm) long, PLUMP (about 2 POUNDS - 960 gm. - in weight), with SHORT LEGS, not much of a NECK, FLOPPING EARS, and NO TAIL.

☐ It has big front TEETH too, but they don't stick out as much as the mouse's or rat's.

In addition:

The guinea pig is ALERT, active in DAYTIME, TAME, and easy to CONTROL.

Guinea pigs are excitable and will PANIC when startled.

They also become UPSET by changes in the environment or by being moved.

Guinea pigs, non-human primates, and human beings are the only animals that require Vitamin C in the diet.

☐ The RABBIT is similar to the rodents but it is not a rodent.

☐ It is LARGER than the guinea pig, 11 to 18 INCHES (28-45 cm) long, 6 to 10 POUNDS (2.7-4.5 kg) in weight.

☐ It has big EARS, 1 1/2 by 4 inches to 6 by 12 inches (3.6 by 10 cm to 15.25 by 30.5 cm) and a fluffy "cotton-ball" TAIL.

☐ The rabbit has LARGE strong BACK LEGS with which it jumps or hops.

☐ The rabbit also has LONG FLAT FRONT TEETH.

☐ Most lab rabbits are WHITE; some are BROWN or BLACK-AND-WHITE, but there are many color combinations.

In addition:

Rabbits are lagomorphs, differing from rodents, among other ways, by having two pairs of upper front teeth (incisors), one in back of the other.

The rabbit is somewhat excitable, raising its head and cocking its ears at the slightest unusual sound.

When alarmed, a rabbit may stamp the floor loudly with one or both hind feet.

A rabbit becomes FRIGHTENED when placed on a slippery surface.

The rabbit is generally a nocturnal animal.

PRACTICE EXERCISE

LESSON 2

INSTRUCTOR: AFTER THE STUDENTS HAVE VIEWED THE AUDIO-VISUAL DEMONSTRATION EXERCISE FOR LESSON 2, TAKE A COPY OF THE PRACTICE EXERCISE TO THE ROOM(S) IN WHICH THE PRACTICE EXERCISE WILL BE HELD.

SHOW EACH STUDENT EACH RODENT AND RABBIT THAT THE STUDENT MUST LEARN TO IDENTIFY.

TELL THE STUDENT WHAT TO LOOK FOR IN IDENTIFYING EACH RODENT AND RABBIT.

AS SOON AS YOU FEEL THAT THE STUDENTS HAVE LEARNED THE NECESSARY SKILLS FOR THIS LESSON, YOU CAN GO ON TO THE MASTERY EXERCISE. UNTIL THAT TIME, CONTINUE ALLOWING THEM TO PRACTICE, HELPING THEM AS NEEDED.

MASTERY EXERCISE

LESSON 2

INSTRUCTOR: AFTER THE STUDENTS HAVE COMPLETED THE PRACTICE EXERCISE FOR LESSON 2, TAKE A COPY OF THE MASTERY EXERCISE AND GO TO THE ROOM(S) IN WHICH THE MASTERY EXERCISE WILL BE HELD.

SAY "We are going to identify rodents and rabbits. Please wait outside the room until I call you in, one at a time. When I call you in, I'll point to different animals. When I point, tell me if the animal _is_ a rodent or _isn't_ a rodent. Then tell me what kind it is."

GO INTO THE ROOM WITH THE FIRST STUDENT. LEAVE THE OTHER STUDENTS OUTSIDE THE ROOM.

POINT TO A RODENT OR RABBIT AND SAY "Is that a rodent or a rabbit? If it's a rodent, which kind is it?"

IF THE STUDENT GIVES A WRONG ANSWER, DON'T SAY ANYTHING RIGHT AWAY. WAIT FOR A MINUTE TO GIVE HIM A CHANCE TO CHANGE HIS ANSWER.

IF THE STUDENT STILL DOESN'T KNOW THE RIGHT ANSWER, REPEAT THE PRACTICE EXERCISE WITH HIM. THEN COME BACK TO THE MASTERY EXERCISE, TO MAKE SURE THAT HE HAS MASTERY OF THE SKILL BEFORE YOU GO ON.

WHEN THE STUDENT GIVES A RIGHT ANSWER, SAY "Good" OR "Right."

REPEAT THE PROCEDURE FOR ALL THE ANIMALS IN THE ROOM, IF THERE IS MORE THAN ONE KIND.

THEN REPEAT THE ABOVE PROCEDURES IN THIS ROOM WITH EACH OF THE REMAINING STUDENTS.

IF THERE ARE OTHER ROOMS TO BE USED IN THIS EXERCISE, PROCEED AS ABOVE UNTIL ALL THE RODENTS AND RABBITS HAVE BEEN IDENTIFIED BY EACH STUDENT.

AS EACH STUDENT FINISHES CORRECTLY, SIGN HIS LESSON CERTIFICATE.

Instructor:

Before meeting with Students, do the following (check when done):

- ☐ Review the Practice and Mastery Exercises at the end of this Lesson.
- ☐ Review the A-V Lesson.
- ☐ Make notes regarding any facility differences (procedures that differ from those shown in the A-V presentation). Space is provided on the left-hand pages of this manual.
- ☐ Prepare an area for the Practice and Mastery sessions.

Only after you have done all of the above:

- ☐ Have the Student view the A-V as many times as he likes.
- ☐ Take the Student to the appropriate area so he can practice the skills described on the practice sheet.
- ☐ When you feel that the Student has mastered the material, take the Mastery Exercise sheet and follow directions exactly as written.

Lesson 3

IDENTIFYING CATS AND DOGS

SCHEDULE CHART

☐ VIEW Audio-visual Demonstration Exercise, summarized on pages 3-1 through 3-4, in Room __________. View it as many times as you want.

☐ MEET ________________ (Instructor) at ________ (time) on ________ (date) in ________________ (room and bldg.) for Practice and Mastery Exercises.

Instructor:

☐ How will the animal technician use the Cat Chart in your facility to help in identifying cats?

☐ CATS come in different sizes, shapes, and colors.

☐ The BREED of a cat is simply what kind of a cat it is.

☐ Many breeds of cats look alike.

☐ The MANX cat has no tail, however.

☐ The CAT CHART will help the technician tell what breed a cat is.

☐ Cats weigh from 5 to 12 pounds (2.3 - 5.2 kg) and are 12 to 24 inches (30 - 60 cm) long.

☐ Except for the Manx, cats have long furry tails.

☐ Cats have sharp teeth and claws.

☐ When they are thinking of biting or clawing, their ears may go back and they may crouch.

☐ Though some are nervous and suspicious, cats are generally affectionate.

☐ They are alert, active, graceful, playful, curious, intelligent -- and very independent.

Instructor:

☐ How will the animal technician use the Dog Chart in your facility to help in identifying dogs?

☐ DOGS come in dozens of different breeds.

☐ So the DOG CHART is really needed.

☐ Some full - grown dogs weigh only 5 pounds (2 kg) and are 8 to 10 inches (20 - 25 cm) tall. Some weigh up to 200 pounds (90 kg) and are up to 3 feet (92 cm) tall.

☐ The SAINT BERNARD is one of the bigger breeds.

☐ Use the dog chart when you have to identify a breed of dogs.

In addition:

☐ Dogs may bite when surprised or afraid.

☐ Dogs are more manageable than cats. They respond to kind, firm handling.

☐ Dogs are quite affectionate.

☐ But a dog that is growling, or that raises its upper lip, or whose hair stands on end, should be approached with caution.

☐ SHORT-HAIRED dogs and cats are preferred for laboratory work because they are easier to take care of.

☐ SMALLER dogs take up less room.

☐ Smaller dogs eat less.

☐ Some breeds bark a lot. Some need constant attention. Some are shorter-lived.

In addition:

☐ Most cats and dogs used in research come from the local animal shelter.

☐ They would probably have been put to death if the laboratory had not selected them.

☐ Such animals are generally strays.

☐ Some are quite wild after being strays so long.

☐ Many are half-starved or sick.

☐ So they are nervous, distrustful, confused, and frightened.

☐ The technician should speak to the animal, pet it, and act friendly, before handling it.

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☐ The chart does NOT always give the exact picture of the dog or cat.

☐ Usually laboratory animals are MIXED BREEDS.

☐ An animal that combines many breeds is called a MONGREL.

☐ Mongrels DON'T look like any particular breed.

☐ A mongrel dog often is medium-sized with dark, fairly long hair.

☐ A mixed-breed shepherd dog would have medium-long bristly hair, a large muzzle, and large ears that stand upright.

☐ The dog's large teeth are called CANINES.

☐ ALL meat-eaters have such teeth.

☐ A mixed-breed Labrador is large, too, but it is a different color and its ears bend more than the mixed shepherd.

The beagle is short-haired but much smaller than the shepherd or the Labrador.

The spaniel is slightly larger than the beagle, with floppy ears and longer silkier hair than the beagle. The spaniel usually has a smaller tail than the beagle.

PRACTICE EXERCISE

LESSON 3

INSTRUCTOR: AFTER THE STUDENTS HAVE VIEWED THE AUDIO-VISUAL DEMONSTRATION EXERCISE FOR LESSON 3, TAKE A COPY OF THE PRACTICE EXERCISE TO THE ROOM(S) IN WHICH THE PRACTICE EXERCISE WILL BE HELD.

SHOW EACH STUDENT THE DIFFERENT TYPES OF CATS AND DOGS IN YOUR FACILITY.

SHOW AND EXPLAIN TO EACH STUDENT WHAT IS MEANT BY "PUREBREED," "CROSS BREED," OR "MIX," AND "MONGREL."

SHOW THE DOG AND CAT IDENTIFICATION CHARTS AND DEMONSTRATE HOW TO FIND AN ANIMAL'S BREED BY LOOKING AT THE CHART.

AS SOON AS YOU FEEL THAT THE STUDENTS HAVE LEARNED THE NECESSARY SKILLS FOR THIS LESSON, YOU CAN GO ON TO THE MASTERY EXERCISE. UNTIL THAT TIME, CONTINUE ALLOWING THEM TO PRACTICE, HELPING THEM AS NEEDED.

MASTERY EXERCISE

LESSON 3

INSTRUCTOR: AFTER THE STUDENTS HAVE COMPLETED THE PRACTICE EXERCISE FOR LESSON 3, TAKE A COPY OF THE MASTERY EXERCISE AND GO TO THE ROOM(S) IN WHICH THE MASTERY EXERCISE WILL BE HELD.

SAY "WE ARE GOING TO IDENTIFY CATS AND DOGS OF VARIOUS BREEDS. PLEASE WAIT OUTSIDE UNTIL I CALL YOU IN, ONE AT A TIME. WHEN I CALL YOU IN, I'LL POINT TO DIFFERENT ANIMALS. YOU'RE TO SAY IF ITS A CAT OR DOG, AND WHICH BREED."

GO INTO THE ROOM WITH THE FIRST STUDENT. LEAVE THE REMAINING STUDENTS OUTSIDE THE DOOR.

POINT TO A CAT OR DOG AND SAY "IS THAT A CAT OR A DOG?" THEN SAY "LOOK AT ONE OF THE TWO CHARTS ON THE WALL AND TELL ME WHICH BREED IT IS."

IF THE STUDENT GIVES A WRONG ANSWER, DON'T SAY ANYTHING RIGHT AWAY. WAIT FOR A ~~MINUTE TO~~ GIVE HIM A CHANCE TO CHANGE HIS ANSWER.

IF THE STUDENT STILL DOESN'T KNOW THE RIGHT ANSWER, REPEAT THE PRACTICE EXERCISE WITH HIM. THEN COME BACK TO THE MASTERY EXERCISE, TO MAKE SURE THAT HE HAS MASTERY OF THE SKILL BEFORE YOU GO ON.

WHEN THE STUDENT GIVES A RIGHT ANSWER, SAY "GOOD" OR "RIGHT."

REPEAT THE AVOVE STEPS FOR SEVERAL DIFFERENT BREEDS OF BOTH CATS AND DOGS.

THEN REPEAT THE EXERCISE FOR EACH OF THE REMAINING STUDENTS.

AS EACH STUDENT FINISHES CORRECTLY, SIGN HIS LESSON CERTIFICATE.

Instructor:

Before meeting with Students, do the following (check when done):

- ☐ Review the Practice and Mastery Exercises at the end of this Lesson.
- ☐ Review the A-V Lesson.
- ☐ Make notes regarding any facility differences (procedures that differ from those shown in the A-V presentation). Space is provided on the left-hand pages of this manual.
- ☐ Prepare an area for the Practice and Mastery sessions.

Only after you have done all of the above:

- ☐ Have the Student view the A-V as many times as he likes.
- ☐ Take the Student to the appropriate area so he can practice the skills described on the practice sheet.
- ☐ When you feel that the Student has mastered the material, take the Mastery Exercise sheet and follow directions exactly as written.

Lesson 4

IDENTIFYING NON-HUMAN PRIMATES

SCHEDULE CHART

☐ VIEW Audio-visual Demonstration Exercise, summarized on pages 4-1 through 4-7, in Room __________. View it as many times as you want.

☐ MEET ____________________ at __________ on __________
Instructor time date
in _________________________ for Practice and Mastery
room and bldg.
Exercises.

Instructor:

☐ How will the animal technician use the Primate Chart in your facility to help identify primates?

☐ Like the rodents, the PRIMATES include a lot of different-looking and different-acting animals.

☐ The TREE SHREW looks like a squirrel, but it is a PRIMATE.

☐ MONKEYS too are primates.

☐ So are the APES:

- the chimpanzee
- the gibbon
- the orangutan
- the gorilla

☐ Sometimes a gibbon or a chimpanzee will be used in the laboratory, but the apes are expensive to keep.

☐ So monkeys are used more often.

☐ HUMAN BEINGS are also primates.

In addition:

☐ The non-human primates range in size from the gorilla (5½ feet tall; 500 pounds) to the tree shrew (2-3 cm long; from 20-30 g).

☐ Apes, such as the chimpanzee, occur only in the Old World -- Europe, Asia, and Africa.

☐ The PRIMATES form an order (one of the names in science for a group that has something in common).

☐ Any primate can walk upright on two legs if it wants to.

☐ The apes walk upright more than the monkeys do.

☐ Primates have hands and feet, not paws like the cat and dog.

☐ The primate hand has a finger that acts as a kind of thumb, and the fingers and toes of primates can be individually moved.

☐ This makes it possible for primates to pick things up and hold them.

☐ Some of these fingers and toes have nails, not claws like other animals.

☐ Some of the non-human primates have long tails.

☐ Apes do NOT have tails.

☐ The primates all have sharp teeth.

☐ And they are smart and fast.

In addition:

☐ There are two principal groups of simian (apelike or monkeylike) primates: the New World monkeys and the Old World monkeys.

☐ Both are used in laboratory work.

☐ New World monkeys include marmosets, owl monkeys, and squirrel monkeys.

☐ The MARMOSET is a small New World monkey from Brazil, never more than 11 inches (28 cm) tall.

☐ The New World monkeys come from Central or South America.

☐ The noise a marmoset makes is a birdlike twittering, a high-pitched sound.

☐ The marmoset's hand shows the beginning of a thumb.

☐ The SQUIRREL MONKEY is probably the most common New World monkey.

☐ It is called that probably because of its size and its tail, which are like a squirrel's.

☐ Its tail is as long or longer than its body and is not used for swinging.

☐ The squirrel monkey is about 10 or 15 inches (25-38 cm) tall.

☐ It has white rings around its eyes.

☐ Its fur is green and brown, with touches of yellow and gray.

☐ Half its tail is black.

☐ The CAPUCHIN MONKEY is the kind the organ-grinder uses.

☐ It makes a good pet.

☐ The capuchin is perhaps a little bigger than the squirrel monkey.

☐ The capuchin has a HAND-TAIL, or grasping tail, with which it grabs onto things or uses to move around.

☐ But the tail is not strong enough to hang from.

☐ The most common capuchin monkey is the white-throated capuchin, with white face and chest.

☐ The capuchin too is a New World monkey.

☐ The RHESUS MONKEY is the most common species of primate used in research.

☐ It was used in the research that found the Rh factor in blood.

☐ In fact, the Rh in "Rh factor" represents the first letters in the word "rhesus." The factor was called that because it was first discovered in the rhesus monkey.

☐ The rhesus is an Old World monkey, from southern Asia and India.

☐ It is much bigger than the capuchin, about 2 feet (61 cm) tall and when full grown over 25 pounds (11.35 kg).

☐ It does not have a grasping tail.

☐ It has sitting pads on its rear. Since it moves more on the ground than in trees, it developed the pads to be comfortable in sitting.

☐ It also has pads on its hands, because it walks on the ground with its hands down.

☐ The rhesus has large canine teeth.

☐ Sometimes veterinarians remove these teeth for safety.

☐ The rhesus is always a shade of yellowish brown.

☐ Like the hamster (a rodent), the rhesus has cheek pouches.

☐ It stores food in these pouches, then runs off to a safe place to eat.

☐ The adult male BABOON is twice as big as the rhesus, 4 feet (1.4 m) high.

☐ The female baboon is smaller than the male and is used more in the laboratory.

☐ The baboon has a long muzzle and a big head.

☐ Its eyes are small and close together.

☐ The baboon is an Old World monkey.

☐ Like the rhesus, it has sitting pads on its buttocks.

PRACTICE EXERCISE

LESSON 4

INSTRUCTOR: AFTER THE STUDENTS HAVE VIEWED THE AUDIO-VISUAL DEMONSTRATION EXERCISE FOR LESSON 4, TAKE A COPY OF THE PRACTICE EXERCISE TO THE ROOM(S) IN WHICH THE PRACTICE EXERCISE WILL BE HELD.

SHOW EACH STUDENT THE DIFFERENT BREEDS OF PRIMATE INYOUR FACILITY, AND POINT OUT WHAT TO LOOK FOR IN TELLING ONE FROM ANOTHER.

SHOW EACH STUDENT THE PRIMATE IDENTIFICATION CHART ON THE WALL, AND DEMONSTRATE HOW TO FIND WHAT BREED A PRIMATE IS BY LOOKING AT THE CHART.

AS SOON AS YOU FEEL THAT THE STUDENTS HAVE LEARNED THE NECESSARY SKILLS FOR THIS LESSON, YOU CAN GO ON TO THE MASTERY EXERCISE. UNTIL THAT TIME, CONTINUE ALLOWING THEM TO PRACTICE, HELPING THEM AS NEEDED.

MASTERY EXERCISE

LESSON 4

INSTRUCTOR: AFTER THE STUDENTS HAVE COMPLETED THE PRACTICE EXERCISE FOR LESSON 4, TAKE A COPY OF THE MASTERY EXERCISE AND GO TO THE ROOM(S) IN WHICH THE MASTERY EXERCISE WILL BE HELD.

SAY "WE ARE GOING TO IDENTIFY PRIMATES OF VARIOUS TYPES. PLEASE WAIT OUTSIDE UNTIL I CALL YOU IN. WHEN I POINT TO DIFFERENT PRIMATES, I WANT YOU TO TELL ME WHICH ONES THEY ARE."

GO INTO THE ROOM WITH THE FIRST STUDENT. LEAVE THE OTHER STUDENTS OUTSIDE THE ROOM.

POINT TO A PRIMATE AND SAY "LOOK AT THE CHART ON THE WALL AND TELL ME WHICH BREED OF PRIMATE THAT IS."

IF THE STUDENT GIVES A WRONG ANSWER, DON'T SAY ANYTHING RIGHT AWAY. WAIT FOR A MINUTE TO GIVE HIM A CHANCE TO CHANGE HIS ANSWER.

IF HE STILL DOESN'T KNOW THE RIGHT ANSWER, REPEAT THE PRACTICE EXERCISE WITH HIM. THEN COME BACK TO THE MASTERY EXERCISE, TO MAKE SURE THAT HE HAS MASTERY OF THE SKILL BEFORE YOU GO ON.

WHEN THE STUDENT GIVES A RIGHT ANSWER, SAY "GOOD" OR "RIGHT."

REPEAT THE ABOVE STEPS FOR EACH OF THE DIFFERENT BREEDS OF PRIMATE IN YOUR FACILITY.

REPEAT THE EXERCISE WITH EACH OF THE REMAINING STUDENTS.

AS EACH STUDENT FINISHES CORRECTLY, SIGN HIS LESSON CERTIFICATE.

Instructor:

Before meeting with Students, do the following (check when done):

- ☐ Review the Practice and Mastery Exercises at the end of this Lesson.
- ☐ Review the A-V Lesson.
- ☐ Make notes regarding any facility differences (procedures that differ from those shown in the A-V presentation). Space is provided on the left-hand pages of this manual.
- ☐ Prepare an area for the Practice and Mastery sessions.

Only after you have done all of the above:

- ☐ Have the Student view the A-V as many times as he likes.
- ☐ Take the Student to the appropriate area so he can practice the skills described on the practice sheet.
- ☐ When you feel that the Student has mastered the material, take the Mastery Exercise sheet and follow directions exactly as written.

Lesson 5

IDENTIFYING FARM ANIMALS

SCHEDULE CHART

☐ VIEW Audio-visual Demonstration Exercise, summarized on pages 5-1 through 5-7, in Room ________. View it as many times as you want.

☐ MEET ______________ (Instructor) at ________ (time) on ________ (date) in ______________ (room and bldg.) for Practice and Mastery Exercises.

Instructor:

☐ What farm animals will the Student have to learn to recognize in your facility?

☐ FARM ANIMALS include

- sheep
- goats
- swine (pigs)
- poultry
- cows
- horses

☐ All of these animals may be used in research, but cows and horses are not usual in most facilities.

☐ The SHEEP, which looks rather stocky, is about 2 1/2 feet (76 cm) tall and about 3 1/2 feet (1.1 m) long.

☐ Sheep weigh from 125-250 pounds (57-114 kg) but most weigh less than the maximum.

☐ Sheep bear more or less WHITE WOOL.

☐ This wool, the fleece, is cut off and used to make cloth and clothing.

☐ Sheep have hooves, as do most farm animals.

Certain breeds of sheep have horns.

☐ In these breeds, both the male and the female are horned.

In addition:

Sheep are not likely to bite the handler.

They may injure themselves if they panic.

The handler should be calm, slow, deliberate, and gentle.

Sheep are not very affectionate.

But if hand-raised, they respond to scratching, petting or gentle talk.

Most sheep used in research, however, are nervous and excitable.

They do best in a regular, deliberate routine.

☐ The GOAT looks something like the sheep but is less stocky.

☐ The goat is taller and longer than the sheep.

☐ It weighs must less than the sheep, about 150 pounds (70 kg), though some goats reach 250 pounds (114 kg).

☐ The easiest difference to see between goats and sheep is that the GOAT has HAIR, like a collie dog's, while the sheep has wool.

☐ Goats may be brown or white or black or any combination of these.

☐ One kind of goat, the ANGORA, has a woolly kind of hair. But since its hair tends to get matted and requires almost daily brushing, the angora is not much used in animal facilities.

☐ Goats have long ears that flop down, and a large muzzle.

☐ Some breeds of goats have horns, and like the sheep both male and female of these breeds will have them.

☐ Both male (billy goat) and female (nanny goat) have beards.

In addition:

The female goat has a large udder, like the cow, for giving milk.

The goat is a social animal, active and inquisitive.

It is playful, so the handler has to take care, especially if the goat's horns have not been filed down.

The goat is not likely to bite the handler.

☐ The PIG is a much larger animal than the sheep or goat, typically weighing about 400 pounds (192 kg).

☐ There is a miniature pig, developed for lab work, that weighs only about half as much, about 200 pounds (96 kg).

☐ The pig is stout-bodied, short-legged, with thick skin and a long snout.

☐ The pig has hair that is short and bristly - and there isn't much of it.

☐ The pig has pointed ears, small beady eyes, and a long mobile snout, flat and hairless on the front. It has a small curly tail.

☐ Its eyesight is not very good.

☐ The pig is a very intelligent animal, and quite independent.

☐ Pigs are NOT as messy and dirty as some people think.

☐ If pigs are given a clean living area with clean bedding, they won't mess it up.

In addition:

A quite small pig, weighing about 150 pounds (70 kg), is also used in the laboratory.

Pigs respond best to quiet, firm handling.

Pigs do bite.

A female pig (sow) with young (piglets) may become vicious.

Pigs cannot be led. They will stubbornly refuse to move.

But a pig will run toward an opening where it sees light.

Pigs respond to back-scratching and to being talked to in reassuring tones.

☐ POULTRY includes chickens, turkeys, ducks, pigeons, quail, and other small fowl.

☐ CHICKENS are usually used in the laboratory, but all poultry are treated much alike.

☐ The chicken has

- two legs
- long tail feathers
- red comb on top of its head
- a wattle under its chin
- two large wings

☐ Chickens fly but not well, because the body is heavy.

☐ Large birds, like geese and swans, can injure people with their wings.

☐ The bird's beak is also a weapon, strong and pointed.

☐ Chickens can peck sharply.

☐ The technician has to be careful of the claws or talons, which can scratch deeply.

In addition:

Poultry vary from 1/4 pound to 30 pounds (120 gm. to 13.5 kg.)

There is a wide range of colors.

Birds are typically nervous and panic easily.

They should be captured swiftly and surely, and handled firmly and gently.

All adult birds' wings should be kept under control when handling.

Birds have a pecking order, a society in which some lead and some follow, each bird in a kind of rank above or below each other bird.

So the weak may be injured by the strong, perhaps even pecked to death.

The feces of birds include their liquid waste.

SUMMARY OF ORIENTATION TO ANIMAL BEHAVIOR

1. The animals we have discussed may behave in the following ways when you surprise them.

   a. Mouse: will struggle; may bite.

   b. Rat: will struggle; will bite.

   c. Guinea pig: will struggle violently; will usually not bite.

   d. Hamster: very likely to struggle and inflict painful bites.

   e. Rabbit: will struggle and kick its powerful hind legs violently; will usually not bite. The toe nails can scratch very painfully. It may break its back struggling.

   f. Cat: will bite; may scratch wildly with its claws. Watch for hissing, hair standing up on back. May twist its ears and assume a crouched position.

   g. Dog: may bite; may jump at a person when frightened or surprised. Watch for growling, raising of upper lip, hair standing on back.

   h. Sheep: will not bite or fight; may butt. Easily frightened and very timid; will panic and run.

   i. Goat: playful animal; likely to butt in fun.

   j. Swine: easily frightened; will run. Capable of biting; the adult may be vicious. To relax, scratch its back and head, and talk in a soothing tone.

   k. Primates: wild animals; will inflict very painful bites. Strong, quick, and smart.

   l. Poultry: very nervous, excitable animals; may bite. Important to control the strong wings of a large bird, especially to keep them away from your face.

2. Always treat animals humanely. Although you may attempt to "tame" the animals by working with them often, don't become emotionally attached to a laboratory animal. You should not treat any one animal differently from another. This could jeopardize the results of an experiment.

3. A cage or room of animals is a small society, in which some members will work - or fight - to reach certain social positions. The status of a particular fowl within a society can be determined by its position in the "pecking order", that is, by seeing which ones peck at it (and how many peck at it), and which one(s) it pecks. Recognize that there are definite leaders and definite followers.

4. A mother with young is extremely protective of them. She will often fight anyone who comes near. In fact, she will sometimes eat the young if she feels very threatened.

5. To avoid starving to death, animals will begin to eat other animals, or even themselves. This is called cannibalism.

PRACTICE EXERCISE

LESSON 5

INSTRUCTOR: AFTER THE STUDENTS HAVE VIEWED THE AUDIO-VISUAL DEMONSTRATION EXERCISE FOR LESSON 5, TAKE A COPY OF THE PRACTICE EXERCISE TO THE ROOM(S) IN WHICH THE PRACTICE EXERCISE WILL BE HELD.

SHOW EACH STUDENT EACH OF THE DIFFERENT TYPES OF FARM ANIMALS IN YOUR FACILITY.

POINT OUT THE THINGS TO LOOK FOR IN TELLING ONE FROM THE OTHER IN THE CASE OF LOOKALIKES, SUCH AS THE SHEEP AND GOATS.

AS SOON AS YOU FEEL THAT THE STUDENTS HAVE LEARNED THE NECESSARY SKILLS FOR THIS LESSON, YOU CAN GO ON TO THE MASTERY EXERCISE. UNTIL THAT TIME, CONTINUE ALLOWING THEM TO PRACTICE, HELPING THEM AS NEEDED.

MASTERY EXERCISE

LESSON 5

INSTRUCTOR: AFTER THE STUDENTS HAVE COMPLETED THE PRACTICE EXERCISE FOR LESSON 5, TAKE A COPY OF THE MASTERY EXERCISE AND GO TO THE ROOM(S) IN WHICH THE MASTERY EXERCISE WILL BE HELD.

SAY "WE ARE GOING TO IDENTIFY A GROUP OF ANIMALS CALLED FARM ANIMALS. PLEASE WAIT OUTSIDE THE ROOM UNTIL I CALL YOU IN, ONE AT A TIME. WHEN I POINT TO ONE FO THE FARM ANIMALS, YOU'RE TO TELL ME WHICH FARM ANIMAL IT IS."

GO INTO THE ROOM WITH THE FIRST STUDENT. LEAVE THE OTHER STUDENTS OUTSIDE THE ROOM.

POINT TO ONE OF THE FARM ANIMALS AND SAY "WHICH FARM ANIMAL IS THAT?"

IF THE STUDENT GIVES A WRONG ANSWER, DON'T SAY ANYTHING RIGHT AWAY. WAIT FOR A MINUTE TO GIVE HIM A CHANCE TO CHANGE HIS ANSWER.

IF HE DOESN'T KNOW THE RIGHT ANSWER, REPEAT THE PRACTICE EXERCISE WITH HIM. THEN COME BACK TO THE MASTERY EXERCISE, TO MAKE SURE THAT HE HAS MASTERY OF THE SKILL BEFORE YOU GO ON.

WHEN THE STUDENT GIVES A RIGHT ANSWER, SAY "GOOD" OR "RIGHT."

REPEAT THE ABOVE STEPS FOR EACH OF THE TYPES OF FARM ANIMALS IN YOUR FACILITY.

REPEAT THE EXERCISE FOR EACH OF THE REMAINING STUDENTS.

AS EACH STUDENT FINISHES CORRECTLY, SIGN HIS LESSON CERTIFICATE.

Instructor:

Before meeting with Students, do the following (check when done):

- ☐ Review the Practice and Mastery Exercises at the end of this Lesson.
- ☐ Review the A-V Lesson.
- ☐ Make notes regarding any facility differences (procedures that differ from those shown in the A-V presentation). Space is provided on the left-hand pages of this manual.
- ☐ Prepare an area for the Practice and Mastery sessions.

Only after you have done all of the above:

- ☐ Have the Student view the A-V as many times as he likes.
- ☐ Take the Student to the appropriate area so he can practice the skills described on the practice sheet.
- ☐ When you feel that the Student has mastered the material, take the Mastery Exercise sheet and follow directions exactly as written.

Lesson 6

ANIMAL FEEDS

SCHEDULE CHART

☐ VIEW Audio-visual Demonstration Exercise, summarized on pages 6-1 through 6-6, in Room ________. View it as many times as you want.

☐ MEET ____________________ at __________ on __________
Instructor time date

in ________________________ for Practice and Mastery
room and bldg.

Exercises.

THE ANIMAL ROOM

☐ The supervisor will indicate which feed is to be used for each species in the facility.

☐ Feeds can be told apart by their CONTAINERS, but it is better to learn the feeds themselves.

☐ There are several forms of DRY FEED, the usual form for animals on a regular diet.

☐ PELLETS, used for RODENTS and RABBITS, are different grains and other things pressed into BITE-SIZED form.

☐ BISCUITS, used for DOGS and PRIMATES, are like pellets but LARGER.

☐ DRY FEED is less wasteful than fresh feed; it doesn't spoil as easily. It is easy to handle. It keeps an animal from picking out the parts it likes and leaving the rest. It gives the animal something to chew; and chewing helps keep teeth clean and gums healthy.

☐ There is also WHOLE GRAIN, which is the same food used to make dry feed, and bread and cereal for people.

☐ It is used to feed ADULT BIRDS. Birds have no teeth and can't chew dry feed, like pellets and biscuits.

☐ To help them grind their food, POULTRY get GRIT. Young birds get MASH, which is grain mashed into powder.

☐ MEAL, another standard form of dry feed, is crumbled into pieces instead of being made into cakes or powder. The pieces are not as fine as mash.

☐ A dog just operated on would probably be fed meal, or a soft diet.

Instructor:

☐ In your facility how does the animal technician know which feed is given to the various species?

☐ How are changes in diet or supplements in your facility conveyed to the animal technician?

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☐ CANNED SOFT FEED, like the pet food bought in stores, can also be given to animals.

☐ FARM ANIMALS, such as SHEEP or GOATS, are fed HAY, which is dried grass, cut and baled.

☐ It may be necessary to add SUPPLEMENTS to the regular feed or as part of a special feed. Supplements may be extra VITAMINS or MINERALS.

☐ Animals that have been operated on or are pregnant or nursing young may need supplements.

☐ Some animals need EXTRA VITAMINS. Three living creatures need vitamin C to live: human beings, the non-human primates, and GUINEA PIGS. So FRUIT is often given to primates and guinea pigs because fruit contains vitamin C.

☐ NO supplement should be added unless the investigator asks for it. In fact, no change or addition to a diet should be made unless it is requested by the investigator.

Instructor:

☐ This is a good place in which to review conversion to metric weights from the English system. See the chart on page .

☐ Note that in the table on the facing page the metric weight given is what each animal eats each day.

Lesson 17 will discuss how to recognize disease in animals and methods for reporting it.

☐ The AMOUNT of each animal's diet can be estimated roughly by its SIZE, its AGE, and how much EXERCISE it gets.

☐ The following diet each day is normal for each of the following:

mouse	4.6 gm	rat	12-15 gm
hamster	12-15 gm	guinea pig	30-40 gm
rabbit	150 gm	cat	100-200 gm
chicken	120-180 gm	small monkey	100-300 gm
small dog (beagle)	300-500 gm	goat	900 gm
sheep	1.8 kg	pig	2.7 kg

☐ If an animal is not eating the normal amount, it may be SICK and need medical treatment.

☐ Sick animals must be reported to the supervisor immediately.

☐ Because many animals are fed ad lib (food always available) or because several animals may be in one cage, it may be difficult to tell how much any particular animal has eaten.

Instructor:

☐ In your facility how do animal technicians determine if feed is too old to use?

(One way: To make animal technicians aware of the date beyond which a particular bag of feed cannot be used is for the supervisor to stamp that date on each bag of feed).

☐ Review the proper method of lifting and carrying bags of feed

☐ Autoclaving will be discussed in Lesson 16.

THE FEED ROOM

☐ Feed STORAGE must consider keeping food FRESH, CLEAN, and FREE from BUGS or WILD MICE or RATS that may come in from outside.

☐ CANNED FEED is no problem; it is AIRTIGHT and INSECT-PROOF. But DRY FEED can get STALE and MOLDY.

☐ Moldy feed can make animals sick.

☐ Feed BAGS are DATED or CODED. The AGE of feed can be told by checking the date or code. As a general rule, feed more than three months old should not be used. After three months, the feed may no longer contain some of the necessary nutrients.

☐ STACK dry feed on PALLETS of wood or metal to keep it off the floor.

☐ Place the OLDER feed ON TOP so it gets used first.

☐ Sometimes feed must be sterilized to make it CLEAN and free from germs that could cause disease. It must be put through an autoclave.

☐ Autoclaving will destroy vitamins; only food fortified with vitamins that resist high heat should be autoclaved.

☐ Autoclaved feed should be kept in a special area and marked with the date of autoclaving, using a different color stamp than the one used for the date on the feed bag.

☐ The FEED ROOM should be kept at or below 60° F (10° cooler than normal room temperature). This helps keep feed FRESH and BUG-FREE.

☐ Higher temperatures than 60° F permit insect larvae to hatch and destroy some food elements.

☐ The room should be WELL-VENTILATED and DRY.

☐ Dampness permits molds to grow.

☐ There should be NO CRACKS or CREVICES where dirt can build up or bugs can hide.

☐ Traps may be set for mice and rats. The supervisor will instruct the technician how to bait, set, and clear traps if this becomes necessary. It is important that the technician follow instructions closely, since the wrong bait may be used or an animal be discarded that should have been examined.

☐ There should be NO JUNK or EMPTY FEED BAGS around.

☐ Report any irregularity to the supervisor.

☐ Once a feed bag is opened, Feed should be stored in a clean, dry CONTAINER, not in the original bag.

☐ Such a container should have a TIGHT-FITTING LID and be kept IN the animal room The feed should be brought into the animal room IN this container.

☐ Containers should be WASHED and DRIED thoroughly before being refilled with fresh feed.

☐ Feed CONTAMINATED by BUGS or RODENTS, or feed that has been WET or SPILLED, should be THROWN OUT and never fed to lab animals.

☐ Among the bugs found in contaminated food are:

- WEEVILS
- COCKROACHES
- BEETLES

☐ Even if the bugs themselves are not found, HOLES in the feed bags through which feed is spilling may indicate they are present.

☐ WILD RATS or MICE can be spotted by their TRACKS or TRAILS in spilled feed or by their DROPPINGS on the floor.

☐ The presence of either RODENTS or BUGS should be reported to the supervisor IMMEDIATELY.

AVERAGE DAILY FEED CONSUMPTION

Cat	100-200 gm
Dog (beagle)	300-500 gm
Guinea pig	30-40 gm
Hamster	10-15 gm
Mouse	4-6 gm
Rabbit	150 gm
Rat	12-15 gm
Rhesus monkey	100-300 gm
Adult chicken	¼-⅓ lb (120-180 gm)
Pig, 200 lb.	6 lb (2.7 kg)
Goat, 25 lb.	2 lb (.9 kg)
Sheep	4 lb (1.8 kg)

Sources: AALAS (1967), Arrington (1972), D'Ver, Hauser and Armstrong (1971), Short and Woodnott (1969)

PRACTICE EXERCISE

LESSON 6

INSTRUCTOR: AFTER THE STUDENTS HAVE VIEWED THE AUDIO-VISUAL DEMONSTRATION EXERCISE FOR LESSON 6, TAKE A COPY OF THE PRACTICE EXERCISE TO THE ROOM(S) IN WHICH THE PRACTICE EXERCISE WILL BE HELD.

SHOW EACH STUDENT THE DIFFERENT KINDS OF FEED USED IN YOUR FACILITY. SHOW THESE FEEDS BOTH IN THEIR ORIGINAL CONTAINER AND REMOVED FROM THEIR ORIGINAL CONTAINER.

TELL EACH STUDENT WHAT EACH FEED IS, HOW HE CAN TELL ONE FROM THE OTHER, AND WHICH FEEDS ARE GIVEN TO WHICH ANIMALS.

EXPLAIN TO EACH STUDENT HOW INSTRUCTIONS ARE FORWARDED, IN YOUR FACILITY, TELLING THE ANIMAL TECHNICIANS TO SUPPLEMENT OR CHANGE AN ANIMAL'S DIET.

SHOW EACH STUDENT HOW TO FIND THE DATE ON A FEED BAG. EXPLAIN WHAT TO DO WITH FEED THAT IS TOO OLD, AND SHOW THE PROPER WAY TO STACK FEED BAGS ON A PALLET, SO THAT THE OLDER FEEDS GET USED UP FIRST.

AS SOON AS YOU FEEL THAT THE STUDENTS HAVE LEARNED THE NECESSARY SKILLS FOR THIS LESSON, YOU CAN GO ON TO THE MASTERY EXERCISE. UNTIL THAT TIME, CONTINUE ALLOWING THEM TO PRACTICE, HELPING THEM AS NEEDED.

MASTERY EXERCISE

LESSON 6

INSTRUCTOR: AFTER THE STUDENTS HAVE COMPLETED THE PRACTICE EXERCISE FOR LESSON 6, TAKE A COPY OF THE MASTERY EXERCISE AND GO TO THE ROOM(S) IN WHICH THE MASTERY EXERCISE WILL BE HELD.

SAY "WE ARE GOING TO IDENTIFY ANIMAL FEEDS. PLEASE WAIT OUTSIDE THE ROOM UNTIL I CALL YOU IN, ONE AT A TIME. WHEN I CALL YOU IN, I'LL POINT TO DIFFERENT FEEDS AND ASK YOU SOME QUESTIONS ABOUT EACH KIND, LIKE WHAT KIND OF FEED IT IS OR WHAT ANIMALS EAT IT."

GO INTO THE ROOM WITH THE FIRST STUDENT. LEAVE THE OTHER STUDENTS OUTSIDE THE ROOM.

POINT TO ONE KIND OF FEED (STILL IN ITS ORIGINAL CONTAINER) AND ASK, "WHAT KIND OF FEED IS THIS AND WHAT ANIMAL(S) IS IT GIVEN TO?"

IF THE STUDENT GIVES A WRONG ANSWER, DON'T SAY ANYTHING RIGHT AWAY. WAIT FOR A MINUTE TO GIVE HIM A CHANCE TO CHANGE HIS ANSWER.

IF HE STILL DOESN'T KNOW THE RIGHT ANSWER, REPEAT THE PRACTICE EXERCISE WITH HIM. THEN COME BACK TO THE MASTERY EXERCISE TO MAKE SURE THAT HE HAS MASTERY OR THE SKILL BEFORE YOU GO ON.

WHEN THE STUDENT GIVES A RIGHT ANSWER, SAY "GOOD" OR "RIGHT."

REPEAT THE SAME PROCEDURE WHILE SHOWING SOME OF EACH KIND OF FEED REMOVED FROM ITS ORIGINAL CONTAINER. (SHOW HIM A HANDFUL, OR A BOWLFUL, FOR EXAMPLE.)

(ACT AS YOU DID EARLIER IF THE STUDENT GIVES A WRONG ANSWER.)

SHOW THE STUDENT A FEED BAG. SAY "HOW MUCH LONGER CAN THAT FEED STILL BE SAFELY USED?" THEN TELL HIM "STACK IT WHERE IT BELONGS ON THE PALLET."

(ACT AS YOU DID EARLIER IF ANYTHING THE STUDENT DOES IS WRONG.)

REPEAT THE ABOVE PROCEDURES IN THIS ROOM WITH EACH OF THE REMAINING TRAINEES.

THEN TAKE EACH STUDENT IN TURN TO AN ANIMAL ROOM. GIVE HIM A REQUEST TO SUPPLEMENT AN ANIMAL'S DIET (DO IT THE SAME AS YOU ALWAYS DO IN YOUR FACILITY). THEN SAY "FEED THE ANIMAL WHAT IT SHOULD BE FED."

(AGAIN, ACT AS YOU DID EARLIER IF ANYTHING THE STUDENT DOES IS WRONG.)

AS EACH STUDENT FINISHES CORRECTLY, SIGN HIS LESSON CERTIFICATE.

Instructor:

Before meeting with Students, do the following (check when done):

☐ Review the Practice and Mastery Exercises at the end of this Lesson.

☐ Review the A-V Lesson.

☐ Make notes regarding any facility differences (procedures that differ from those shown in the A-V presentation). Space is provided on the left-hand pages of this manual.

☐ Prepare an area for the Practice and Mastery sessions.

Only after you have done all of the above:

☐ Have the Student view the A-V as many times as he likes.

☐ Take the Student to the appropriate area so he can practice the skills described on the practice sheet.

☐ When you feel that the Student has mastered the material, take the Mastery Exercise sheet and follow directions exactly as written.

Lesson 7

ANIMAL BEDDING

SCHEDULE CHART

☐ VIEW Audio-visual Demonstration Exercise, summarized on pages 7-1 through 7-3, in Room ________. View it as many times as you want.

☐ MEET ____________________ at __________ on __________
Instructor time date

in ________________________ for Practice and Mastery
room and bldg.

Exercises.

Instructor:

☐ Show the technician all the kinds of bedding used in your facility. The technician must be familiar with all types used in the facility, not just those in his area. Under what circumstances is each type used?

☐ Which bedding goes with

- which animal
- which type cage?

☐ BEDDING is used to ABSORB feces and urine, dampness and odors.

☐ Bedding goes INTO the cage or UNDER it, according to the kind of cage.

☐ DIRECT BEDDING goes on the FLOOR of the cage.

☐ INDIRECT BEDDING goes into a PAN under the cage.

☐ The animal does NOT TOUCH indirect bedding.

☐ RODENTS are often kept in direct bedding cages.

☐ Direct bedding can keep the animals WARM or be used by them for making a NEST.

☐ Usually only a THIN LAYER of direct bedding is used, not enough to pile up.

☐ Bedding is CHANGED according to SCHEDULE.

In addition:

☐ To be suitable, bedding should be:

- available. The kind of bedding should not be changed during an experiment.
- absorbent
- deodorizing
- non-poisonous. Some chemicals, such as insecticides, may affect the animal and ruin an experiment.
- dust free. It should not irritate the animal's breathing.
- comfortable. It should not make the animal uncomfortable, as sharp points or edges might do.
- disposable. It is desirable, after use, to burn it for sanitary reasons.

Instructor:

☐ Bedding should arrive at the facility in non-porous sealed containers.

☐ Baled bedding should be wrapped.

☐ How to change bedding will be discussed in Lessons 19, 20, and 21.

☐ Autoclaving will be discussed in Lesson 16.

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☐ There are several different bedding MATERIALS:

- Pine WOOD SHAVINGS
- MINERAL CLAY, gray in color, often used for cat litter.
- DEHYDRATED ALFALFA, green in color.
- ABSORBENT PAPER to line cage pans. It is plastic on one side so it won't stick to the pan when wet.
- SAWDUST, like the wood shavings but finer, smaller in size, and made from softwood.
- STRAW, used for larger animals like goats and sheep.
- Wood CHIPS, another form of wood bedding, made from hardwood.
- COTTON bedding, compressed in small blocks, which can be torn apart by the animals and used for nesting.
- Ground CORN COBS, which look something like wood chips.
- Shredded PAPER
- PAPER FIBERS

☐ Wood CHIPS or SHAVINGS are good for RODENTS, but sawdust is too fine and dusty.

☐ SAWDUST may be used as a second layer, for example under straw. It is often used for indirect bedding.

Instructor:

☐ How can the animal technician identify bedding in the original container?

☐ How can the animal technician identify bedding that has been removed from its original container?

☐ How to change bedding will be discussed in Lessons 19, 20, and 21. Autoclaving will be discussed in Lesson 16.

☐ Some bedding LOOKS LIKE some feed, so you should practice telling it apart from feed, like pellets, for example.

☐ But be sure NOT to use bedding that an animal will EAT. STRAW, used for BEDDING for the larger animals, is YELLOW; ALFALFA hay, which they EAT, is GREEN.

☐ Bedding is STORED in a DRY, DUST-FREE, RODENT-PROOF, VERMIN-PROOF room, perhaps in the feed room.

☐ If the same room is used for feed and bedding, BEDDING must not be mixed with the FEED bags. Sometimes they LOOK ALIKE.

☐ Use the OLDEST bedding FIRST.

☐ DON'T USE dirty, wet, or contaminated bedding. It is spoiled.

☐ REPORT any problems to the supervisor.

In addition:

☐ BEDDING should arrive at the facility in non-porous sealed containers.

☐ Baled bedding should be wrapped.

☐ Bedding, and its container, should be kept CLEAN.

☐ Before use, bedding should be AUTOCLAVED.

☐ After use, if bedding has been CONTAMINATED with disease-causing germs, it should be AUTOCLAVED.

PRACTICE EXERCISE

LESSON 7

INSTRUCTOR: AFTER THE STUDENTS HAVE VIEWED THE AUDIO-VISUAL DEMONSTRATION EXERCISE FOR LESSON 7, TAKE A COPY OF THE PRACTICE EXERCISE TO THE ROOM(S) IN WHICH THE PRACTICE EXERCISE WILL BE HELD.

SHOW EACH STUDENT THE DIFFERENT KINDS OF BEDDING USED IN YOUR FACILITY. SHOW THEM BOTH IN THEIR ORIGINAL CONTAINER AND REMOVED FROM THEIR ORIGINAL CONTAINER.

TELL EACH STUDENT WHAT EACH KIND OF BEDDING IS, HOW HE CAN TELL ONE FROM THE OTHER, AND WHICH KINDS ARE USED FOR WHICH ANIMALS.

AS SOON AS YOU FEEL THAT THE STUDENTS HAVE LEARNED THE NECESSARY SKILLS FOR THIS LESSON, YOU CAN GO ON TO THE MASTERY EXERCISE. UNTIL THAT TIME, CONTINUE ALLOWING THEM TO PRACTICE, HELPING THEM AS NEEDED.

MASTERY EXERCISE

LESSON 7

INSTRUCTOR: AFTER THE STUDENTS HAVE COMPLETED THE PRACTICE EXERCISE FOR LESSON 7, TAKE A COPY OF THE MASTERY EXERCISE AND GO TO THE ROOM(S) IN WHICH THE MASTERY EXERCISE WILL BE HELD.

SAY "We are going to identify different kinds of animal bedding. Please wait outside the room until I call you in one at a time. When I call you in, I'll point to different types of bedding and ask you some questions, like what kind it is or which animals it's used for."

GO INTO THE ROOM WITH THE FIRST STUDENT. LEAVE THE OTHER STUDENTS OUTSIDE THE ROOM.

POINT TO ONE KIND OF BEDDING (STILL IN ITS ORIGINAL CONTAINER) AND ASK, "What kind of bedding is this?"

IF THE STUDENT GIVES A WRONG ANSWER, DON'T SAY ANYTHING RIGHT AWAY. WAIT FOR A MINUTE TO GIVE HIM A CHANCE TO CHANGE HIS ANSWER.

IF HE STILL DOESN'T KNOW THE RIGHT ANSWER, REPEAT THE PRACTICE EXERCISE WITH HIM. THEN COME BACK TO THE MASTERY EXERCISE TO MAKE SURE THAT HE HAS MASTERY OF THE SKILL BEFORE YOU GO ON.

WHEN THE STUDENT GIVES A RIGHT ANSWER, SAY "Good" OR "Right."

REPEAT THIS PROCEDURE FOR EACH TYPE OF BEDDING SHOWN IN ITS ORIGINAL CONTAINER.

THEN REPEAT THE SAME PROCEDURE WHILE SHOWING SOME OF EACH KIND OF BEDDING REMOVED FROM ITS ORIGINAL CONTAINER. (SHOW HIM A HANDFUL, OR A BOWLFUL, FOR EXAMPLE.)

(ACT AS YOU DID EARLIER IF THE STUDENT GIVES A WRONG ANSWER.)

REPEAT THE EXERCISE WITH EACH OF THE REMAINING STUDENTS.

AS EACH STUDENT FINISHES CORRECTLY, SIGN HIS LESSON CERTIFICATE.

Instructor:

Before meeting with Students, do the following (check when done):

☐ Review the Practice and Mastery Exercises at the end of this Lesson.

☐ Review the A-V Lesson.

☐ Make notes regarding any facility differences (procedures that differ from those shown in the A-V presentation). Space is provided on the left-hand pages of this manual.

☐ Prepare an area for the Practice and Mastery sessions.

Only after you have done all of the above:

☐ Have the Student view the A-V as many times as he likes.

☐ Take the Student to the appropriate area so he can practice the skills described on the practice sheet.

☐ When you feel that the Student has mastered the material, take the Mastery Exercise sheet and follow directions exactly as written.

Lesson 8

CAGING #1

SCHEDULE CHART

☐ VIEW Audio-visual Demonstration Exercise, summarized on pages 8-1 through 8-6, in Room __________. View it as many times as you want.

☐ MEET ____________________ at __________ on __________
Instructor time date

in ____________________ for Practice and Mastery
room and bldg.

Exercises.

Instructor:

☐ For caging, the GUIDELINES are set down in Care and Use of Laboratory Animals (National Institutes of Health Publication NIH 73-23) and standards published by the Institute of Laboratory Animal Resources. See the table "Space Recommendations for Laboratory Animals" at the end of this lesson.

The technician should not have to use that chart to determine if animals are properly housed. Instead, a simple method to determine whether animals are overcrowded should be provided to him by filling out the chart of the last page of this Lesson. Help him to fill this out.

☐ How does the animal technician know which cage to use for which species?

☐ Among the NEEDS of animals the technician must know is their CAGING, their housing.

☐ Cages are normally placed in RACKS, which may be movable or non-movable.

☐ Racks can have ADJUSTABLE SHELVES to take care of different types of cages.

☐ Some cages are MOVED on a RACK with WHEELS or CASTERS.

☐ But other cages can be CARRIED by HAND, like the rodent cages.

☐ Some cages have to be taken OFF THE RACK to be examined, like the SHOEBOX cage.

☐ Others, like the RABBIT cage, are easily examined from outside.

☐ There are FEDERAL LAWS telling how much CAGE SPACE each animal needs.

☐ The laws are to prevent TOO MANY animals being in a cage, or TOO SMALL a cage being used for a large animal.

☐ The supervisor KNOWS the laws and will TELL the technician what cage to use.

☐ But the technician SHOULD ALSO KNOW the proper number of animals to place in a cage. See chart on page -0.

☐ The technician must know the PARTS of a cage, how to CLEAN it, how to CHANGE the BEDDING, how to get ANIMALS IN and OUT.

In addition:

A cage should be:

- escape-proof
- comfortable
- easily cleaned
- of durable material, because rodents may nibble at it or it may have to be washed many times at high temperatures.

Cages are made of

** stainless steel

** plastic

** fiberglass

* aluminum

* galvanized steel

* wood

* glass

The first two are most desirable; the last three are least used.

In addition:

Every cage has some kind of feeding and watering device.
This varies according to the animal, type of cage, and type of feed.
Dry powder or dry mash can be placed in a pan or bowl on the floor of the cage.
Pellets should be in a feeder or hopper either attached to the cage, or built into the lid.
Some lids have V feeders for pellets. These are refillable without removing the lid. This kind is good for mice and rats.
Feeders for guinea pigs and rabbits are attached to the cage door well above the floor of the cage.
This keeps the animals out of the feeder while giving them access to the feed.
In this kind of feeder, no more than 1/3 of the food is exposed at one time.
Similar feeders or bowls are used for dogs, cats, and monkeys.
WATER is supplied to the cages in

- a water bottle with a sipper tube. A rubber stopper with a tube sticking out is put in the neck of the bottle. The bottle is turned upside down and secured to the side or top of the cage. The bottle must be at an angle and not completely full or the water will not come out.

- a pipeline (automatic) waterer. The water is delivered to the individual cage by the system, but it must be checked regularly to make sure that there is no block or leak.

- an open bowl. This should be attached to the cage to prevent its being moved or overturned. The water in an open bowl may become contaminated with the animal's waste.

Instructor:

☐ What are the names you use for direct bedding cages in your facility?

☐ How can the student tell them apart?

☐ The filter top will be discussed in Lesson 10.

☐ The SHOEBOX cage is shaped like a shoebox.

☐ It has two parts, a BOTTOM, the cage pan and

a TOP, the cage lid,

that fit together. This is also known as a NESTING cage.

☐ It is a DIRECT BEDDING cage; the bedding, shavings or chips, is IN the cage.

☐ It is a GOOD cage type for rodents to use in NESTING.

☐ The SMALL SHOEBOX cage is suitable for mice.

☐ The LARGER SHOEBOX cages are useful for rats, hamsters, and guinea pigs.

☐ A shoebox cage used for hamsters must have a TIGHT-FITTING LID. Hamsters are ESCAPE artists.

☐ The CAGE PAN is made of galvanized or STAINLESS STEEL or PLASTIC.

☐ The CAGE LID is wire mesh or slotted.

☐ The cage may have LOCKING or non-locking CORNERS.

☐ Both kinds of lids have FEEDERS in them to hold feed PELLETS.

☐ The pellets are always AVAILABLE to the animal but can't fall into the cage.

☐ The WATER BOTTLE'S SPOUT goes through the HOLE in the lid; the bottle rests on the LID.

In addition:

A FILTER TOP may be used for a nesting cage.

☐ The cage must be OPENED to take out an animal.

☐ Place BOTH HANDS on the cage LID, one on each side. The lid cannot slide because of the feeder.

☐ LIFT the lid. The end with the water bottle will be heavier.

☐ Because it may drop, PULL the water bottle out and TURN IT around.

☐ To open the cage WITHOUT removing the lid, lift the lid a little WITH ONE HAND.

☐ PUT the OTHER HAND inside the cage and get the animal you want.

☐ Be sure NOT to CATCH any feet or tails when you close the cage.

☐ Mice might NIBBLE on fingers put over the OPEN SLOTS. Hamsters and some rats may nip unwary fingers to the bone.

☐ As a last check, make sure the LID is securely ON the cage with ALL CORNERS tight.

☐ Remember: ANY ANIMAL will try to ESCAPE if you give it a chance.

☐ NESTING CAGES in use are kept on the SHELVES of racks in the ANIMAL ROOM.

☐ Nesting cages not in use can be STACKED, one inside the other.

Suggested Space for the Routine Housing of Laboratory Animals

Species	Weight or Age	Type of Housing	Overall Size (in inches)			Number of Animals	Housing Area/Animal (in sq. ft.)
			Width	Depth	Height		
Dogs	Up to 15 kg	Pen or run	48	72	--	3	8
	15 to 30 kg	Pen or run	48	72	--	2	12
	Over 30 kg	Pen or run	48	72	--	1	24
	Up to 15 kg	Cage	36	32	32	1	8
	15 to 30 kg	Cage	48	36	36	1	12
Cats	Up to 4 kg	Cage	18	24	24	1	3
	Over 4 kg	Cage	24	24	24	1	4
		Group cage or pen	36	48	72	3-6	2-4
Nonhuman primates	Up to 1 kg	Cage	18	10	18	1-2	0.6-1.2
	1-3 kg	Cage	24	18	24	1-2	1.5-3
	4-5 kg	Cage	24	24	30	1-2	2-4
	6-10 kg	Cage	30	30	36	1	6
	Over 10 kg	Cage	36	30	48	1	7.5
Rabbits	Up to 4 kg	Cage	18	24	16	1-2	1.5-3
	4-5 kg	Cage	24	24	16	1	4
Guinea pigs	Up to 350 g	Individual cage	8	12	8	1	96
	Over 350 g	Individual cage	12	12	8	1	144
	Up to 350 g	Group cage	14	20	8	2-4	70-140
	Over 350 g	Group cage	18	20	8	2-4	90-180
Hamsters		Individual cage	8	12	8	1-6	16-96
		Group cage	14	20	8	Up to 10	28 or more
Rats	150-250 g	Individual cage	8	12	8	1-3	32-96
		Group cage	14	20	8	4-10	28-70
Mice	20 g	Small group	8	12	5	5-10	10-20
		Large group cage	12	18	5	10-20	11-22

Source: Cohen, ed. (1971), *Guide for Laboratory Animal Facilities and Care*, U.S. Department of Health, Education, and Welfare, Public Health Service Publication No. 1024, p. 131.

GUIDANCE CHART

This chart will provide information about all the cages in your facility.

name of cage	species	maximum no. in a cage	bedding	type of feed	water device

SPACE RECOMMENDATIONS FOR LABORATORY ANIMALS

SPECIES	WEIGHT	TYPE OF HOUSING	FLOOR AREA/ANIMAL (SQUARE		HEIGHT[1]	
Mouse	Up to 10 g	Cage	39 cm	(6 in)	12.7 cm	(6 in)
	10-15 g	"	52 cm	(3 in)	12.7 cm	(6 in)
	16-25 g	"	77 cm	(12 in)	12.7 cm	(5 in)
	Over 25 g	"	97 cm	(15 in)	12.7 cm	(5 in)
Rat	Up to 100 g	Cage	110 cm	(17 in)	17.8 cm	(7 in)
	100-200 g	"	148 cm	(23 in)	17.8 cm	(7 in)
	201-300 g	"	187 cm	(29 in)	17.8 cm	(7 in)
	Over 300 g	"	[illegible] cm		17.8 cm	(7 in)
Hamster	Up to 60 g	Cage	64.5 cm	(10.0 in)	15.2 cm	(6 in)
	60-80 g	"	83.9 cm	(13.0 in)	15.2 cm	(6 in)
	81-100 g	"	103.2 cm	(16.0 in)	15.2 cm	(6 in)
	Over 100 g	"	122.6 cm	(19.0 in)	15.2 cm	(6 in)
Guinea Pig	Up to 250 g	Cage	277 cm	(43 in)	17.8 cm	(7 in)
	250-350 g		374 cm	(58 in)	17.8 cm	(7 in)
	Over 350 g		652 cm	(101 in)	17.8 cm	(7 in)
Rabbit	Up to 2 kg	Cage	.14 m	(1.5 ft)	35.6 cm	(14 in)
	2-4 kg	"	.28 m	(3.0 ft)	35.6 cm	(14 in)
	Over 4 kg	"	.37 m	(4.0 ft)	35.6 cm	(14 in)
Cat	Up to 4 kg	Cage	.28 m	(3.0 ft)	61.0 cm	(24 in)
	Over 4 kg	"	.37 m	(4.0 ft)	61.0 cm	(24 in)
Dog[2]	Up to 15 kg	Pen or Run	.74 m	(8.0 ft)	–	
	15-30 kg	"	1.12 m	(12.0 ft)	–	
	Over 30 kg	"	2.23 m	(24.0 ft)	–	
	Up to 15 kg	Cage	.74 m	(8.0 ft)	81.3 cm	(32 in)
		"	1.12 m	(12.0 ft)	91.4 cm	(36 in)
	Over 30 kg	" "	REFER TO FOOTNOTE NO. 2			
Primates[3] [4]						
Group 1	Up to 1 Kg	Cage	.15 m	(1.6 ft)	50.8 cm	(20 in)
Group 2	Up to 3 kg	"	.28 m	(3.0 ft)	76.2 cm	(30 in)
Group 3	Up to 15 kg	"	.40 m	(4.3 ft)	76.2 cm	(30 in)
Group 4	Over 15 kg	"	.74 m	(8.0 ft)	91.4 cm	(36 in)
Group 5	Over 25 kg	"	2.33 m	(25.0 ft)	213.4 cm	(84 in)
Pigeon[5]		Cage	742 cm	(115 in)		
Chicken[5]	Up to ¼ kg	Cage	232.3 cm	(36 in)	–	
	¼-2 kg	"	464.5 cm	(72 in)	–	
	2-4 kg	"	1090.4 cm	(169 in)	–	
	Over 4 kg	"	1651.7 cm	(256 in)	–	
Sheep and Goat	Up to 25 kg	Pen	0.93 m	(10 ft)	–	
	25 to 50 kg	"	1.40 m	(15 ft)	–	
	Over 50 kg	"	1.86 m	(20 ft)		
Hog	Up to 50 kg	Pen	.56 m	(6 ft)	–	
	50-100 kg	"	1.12 m	(12 ft)	–	
	Over 100 kg	"	2.79 m	(30 ft)	–	
Cattle	Up to 350 kg	Stanchion	1.5 m	(16 ft)	–	
	350-450 kg	"	1.7 m	(19 ft)	–	
	450-550 kg	"	2.0 m	(21 ft)	–	
	550-650 kg	"	2.2m	(24 ft)	–	
	Over 650 kg	"	2.5 m	(27 ft)	–	
	Up to 75 kg	Pen	2.2 m	(24 ft)	–	
	75-200 kg	"	4.7 m	(50 ft)	–	
	200-500 kg	"	9.3 m	(100 ft)	–	
	500-600 kg	"	11.2 m	(120 ft)	–	
	600-700 kg	"	13.0 m	(140 ft)	–	
	Over 700 kg	"	14.0 m	(150 ft)	–	
Horse		Tie Stall	4.1 m	(44 ft)	–	
		Pen	13.4 m	(144 ft)	–	

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[1] Height means from the resting floor to the cage top.

[2] These recommendations may require modifications according to the body conformations of particular breeds. As a further general guide, the height of a dog cage should be equal to the height of the dog over the shoulders (at the withers), plus at least six inches, and the width and depth of the cage should be equal to the length of the dog from the tip of the nose to the base of the tail, plus at least six inches.

[3] The primates are grouped according to approximate size with examples of species that may be included in each group.
Group 1 – Marmosets, tupaias, and infants of various species.
Group 2 – Cebus and similar species.
Group 3 – Macaques and large African species.
Group 4 – Baboons, monkeys larger than 15 kg, and adult members of brachiating species such as gibbons, spider monkeys and woolly monkeys.
Group 5 – Great apes.

[4] Where primates are housed in groups in pens, only compatible animals should be kept. Minimum height of pens should be six feet. Resting perches, nesting boxes and escape barriers necessary for the well being of the particular animals should also be provided.

[5] Sufficient headroom must be provided so birds can stand erect without crouching.

Source DHEW Publication No. (NIH) 73-23, *Guide for the Care and Use of Laboratory Animals*

PRACTICE EXERCISE

LESSON 8

INSTRUCTOR: AFTER THE STUDENTS HAVE VIEWED THE AUDIO-VISUAL DEMONSTRATION EXERCISE FOR LESSON 8, TAKE A COPY OF THE PRACTICE EXERCISE TO THE ROOM(S) IN WHICH THE PRACTICE EXERCISE WILL BE HELD.

SHOW EACH STUDENT THE DIFFERENT SHOEBOX CAGES USED IN YOUR FACILITY (PLACTIC, METAL, ETC.)

DEMONSTRATE THE CORRECT WAY OF ATTACHING THE WATER BOTTLE, AND OF REMOVING AND REPLACING THE LID.

WORK WITH THE STUDENTS IN HELPING THEM FILL OUT THE CHART ON PAGE 8-6 OF THE TRAINING MANUAL, WHERE IT LISTS THE SHOEBOX CAGE.

BE SURE TO SHOW HOW THE CHART IS USED TO DETERMINE THE NUMBER OF ANIMALS THAT CAN BE KEPT IN A SHOEBOX CAGE.

AS SOON AS YOU FEEL THAT THE STUDENTS HAVE LEARNED THE NECESSARY SKILLS FOR THIS LESSON, YOU CAN GO ON TO THE MASTERY EXERCISE. UNTIL THAT TIME, CONTINUE ALLOWING THEM TO PRACTICE, HELPING THEM AS NEEDED.

MASTERY EXERCISE

LESSON 8

INSTRUCTOR: AFTER THE STUDENTS HAVE COMPLETED THE PRACTICE EXERCISE FOR LESSON 8, TAKE A COPY OF THE MASTERY EXERCISE AND GO TO THE ROOM(S) IN WHICH THE MASTERY EXERCISE WILL BE HELD.

SAY "We're going into a room where some cages are kept. Please wait outside the room until I call you in, one at a time. When you come in, I'll ask you to do some things with a shoebox cage, like putting a water bottle on it correctly."

GO INTO THE ROOM WITH THE FIRST STUDENT. LEAVE THE OTHER STUDENTS OUTSIDE THE ROOM.

ASK THE STUDENT "Bring me an empty shoebox cage.

IF THE STUDENT GIVES A WRONG ANSWER, DON'T SAY ANYTHING RIGHT AWAY. WAIT FOR A MINUTE TO GIVE HIM A CHANCE TO CHANGE HIS ANSWER.

IF THE STUDENT STILL DOESN'T KNOW THE RIGHT ANSWER, REPEAT THE PRACTICE EXERCISE WITH HIM. THEN COME BACK TO THE MASTERY EXERCISE, TO MAKE SURE THAT HE HAS MASTERY OF THE SKILL BEFORE YOU GO ON.

WHEN THE STUDENT GIVES A RIGHT ANSWER, SAY "Good" OR "Right."

ASK THE STUDENT "Place a water bottle correctly on the shoebox cage."

NEXT, ASK HIM "Remove the lid from the cage, and then replace it."

(ACT AS YOU DID EARLIER IF THE STUDENT DOES SOMETHING INCORRECTLY.)

ASK THE STUDENT "Look at the chart on page 8-6 of your manual and tell me how many adult mice can be kept in the shoebox cage."

(AGAIN, ACT AS YOU DID EARLIER IF THE STUDENT GIVES A WRONG ANSWER.)

REPEAT THE EXERCISE WITH EACH OF THE REMAINING STUDENTS.

AS EACH STUDENT FINISHES CORRECTLY, SIGN HIS LESSON CERTIFICATE.

Instructor:

Before meeting with Students, do the following (check when done):

- ☐ Review the Practice and Mastery Exercises at the end of this Lesson.
- ☐ Review the A-V Lesson.
- ☐ Make notes regarding any facility differences (procedures that differ from those shown in the A-V presentation). Space is provided on the left-hand pages of this manual.
- ☐ Prepare an area for the Practice and Mastery sessions.

Only after you have done all of the above:

- ☐ Have the Student view the A-V as many times as he likes.
- ☐ Take the Student to the appropriate area so he can practice the skills described on the practice sheet.
- ☐ When you feel that the Student has mastered the material, take the Mastery Exercise sheet and follow directions exactly as written.

Lesson 9

CAGING #2

SCHEDULE CHART

☐ VIEW Audio-visual Demonstration Exercise, summarized on pages 9-1 through 9-3, in Room __________. View it as many times as you want.

☐ MEET ____________________ at __________ on __________
instructor time date

in ________________________ for Practice and Mastery
room and bldg.

Exercises.

Instructor:

What do you call each of the indirect bedding cages used in your facility?

How can the Student tell them apart?

☐ The HANGING BASKET or SUSPENDED cage SLIDES open and shut on metal GUIDES. It has NO LID; the shelf acts as its lid.

☐ This cage has a WIRE MESH FLOOR.
Under the floor is a CAGE PAN in which BEDDING material is placed.

☐ It is an INDIRECT BEDDING cage.

☐ The FEEDER is attached to the front; the WATER BOTTLE goes through the hole. Both feeder and bottle are SEPARATE and OUTSIDE the cage.

☐ HANGING BASKET cages are used for MICE, RATS, GUINEA PIGS, and HAMSTERS.

☐ The SIZE of the openings in the MESH floor varies with the species, smaller for mice, larger for rats, and so forth.

☐ BE SURE the CAGE is closed. Otherwise the animal may ESCAPE.

☐ Some suspended cages have TOPS. Some have FRONT-OPENING doors.

☐ In the type shown, the FEEDER and WATER BOTTLE attach to the DOOR.

☐ This type is used for guinea pigs and rabbits.

☐ The MESH should be matched to the animal. Guinea pigs and rabbits need a mesh that is thin; longer than it is wide; the holes should be ½ inch by 2 inches (or by 50 mm).

☐ The FRONT-OPENING cage SLIDES FORWARD to come OFF the rack.

☐ The FEEDER and the WATER BOTTLE can be removed from the cage.

☐ A RESTING BOARD can be put in a cage.

☐ CATS, DOGS, and MONKEYS have FEET that should NOT be ON WIRE MESH all the time. Resting boards, therefore, are often put in their cages.

☐ CATS and DOGS have FEED BOWLS and may get their WATER from a BOWL or from a PIPELINE WATERER that brings water right into the cage.

☐ CHECK the waterer TO MAKE SURE THAT IT WORKS.

Pipeline waterers can be used for RODENTS too.

☐ Suspended cages may also have AUTOMATIC FLUSHING for WASTE MATERIAL.

Instructor:

☐ The use of the squeeze cage will be discussed in Lesson 13, 23, etc.

☐ What animals are kept in pens in your facility?

☐ Is bedding used in pens?

☐ If so, which kinds?

☐ MONKEY CAGES are PADLOCKED to keep the monkeys from escaping.

☐ Some monkey cages have a MOVABLE BACK that can make the monkey move to the front of the cage.

☐ These are called SQUEEZE CAGES.

☐ The squeeze cage is a type of FRONT-OPENING cage. It is used to control the monkey.

☐ In the CHICKEN cage, there often is a SLANTED WIRE MESH to catch eggs.

☐ Larger animals or large groups of animals are kept in a PEN, a large, fenced, walk-in enclosure.

☐ The OUTDOOR pen has a ROOF for protection against hot sun or rain.

☐ The pens used for DOGS have RESTING BOARDS.

☐ FEED is given in a BOWL; WATERING can be AUTOMATIC.

☐ There are INDOOR pens too, for such animals as dogs and goats.

☐ Indoor pens often have BEDDING.

☐ FEED and WATER are given in BUCKETS.

☐ PIGS, alone or several together, are also kept in PENS.

☐ Their FEED is in a TROUGH.

In addition:

The size and shape of the mesh varies with the kind of animal in the ca

The size of mesh is chosen to let feces through and let feces through and yet support the animal.

The wire should be straight and not crinkled.

☐ GANG cages are like pens but CLOSED ON ALL SIDES.

☐ They are used for GROUPS of monkeys, dogs, or cats.

☐ They often have RESTING BOARDS for the animals.

Instructor:

☐ How does the Animal Technician know which suspended cage to use for which species?

PRACTICE EXERCISE

LESSON 9

INSTRUCTOR: AFTER THE STUDENTS HAVE VIEWED THE AUDIO-VISUAL DEMONSTRATION EXERCISE FOR LESSON 9, TAKE A COPY OF THE PRACTICE EXERCISE TO THE ROOM(S) IN WHICH THE PRACTICE EXERCISE WILL BE HELD.

SHOW EACH STUDENT ALL THE DIFFERENT TYPES OF INDIRECT BEDDING CAGES IN THE LESSON.

IDENTIFY EACH ONE BY NAME, AND DEMONSTRATE THE CORRECT WAY TO ATTACH THE WATER BOTTLE AND FEEDER, TO OPEN AND CLOSE EACH CAGE, AND TO REMOVE THE CAGE FROM THE RACK AND TO REPLACE IT.

WORK WITH THE STUDENTS IN HELPING THEM FILL OUT THE CHART ON PAGE 8-6 OF THE TRAINING MANUAL WHERE IT LISTS INDIRECT BEDDING CAGES.

SHOW HOW THE CHART IS USED TO DETERMINE THE NUMBER OF ANIMALS THAT CAN BE KEPT IN EACH TYPE OF INDIRECT BEDDING CAGE COVERED IN THIS LESSON.

AS SOON AS YOU FEEL THAT THE STUDENTS HAVE LEARNED THE NECESSARY SKILLS FOR THIS LESSON, YOU CAN GO ON TO THE MASTERY EXERCISE. UNTIL THAT TIME, CONTINUE ALLOWING THEM TO PRACTICE, HELPING THEM AS NEEDED.

MASTERY EXERCISE

LESSON 9

INSTRUCTOR: AFTER THE STUDENTS HAVE COMPLETED THE PRACTICE EXERCISE FOR LESSON 9, TAKE A COPY OF THE MASTERY EXERCISE AND GO TO THE ROOM(S) IN WHICH THE MASTERY EXERCISE WILL BE HELD.

SAY "WE'RE GOING INTO A ROOM (OR "SOME ROOMS") WITH DIFFERENT KINDS OF CAGES. THEY ARE ALL INDIRECT BEDDING KINDS OF CAGES. PLEASE WAIT OUTSIDE UNTIL I CALL YOU IN ONE AT A TIME. WHEN YOU COME IN, I'LL ASK YOU SOME QUESTIONS ABOUT THESE CAGES. LIKE WHAT THEY ARE CALLED, AND WHAT KIND OF BEDDING THEY NEED, AND WHAT ANIMALS GO IN THEM. THEN I'LL ASK YOU TO DO CERTAIN THINGS WITH EACH CAGE, LIKE TAKING IT OFF A RACK AND PUTTING IT BACK ON."

GO INTO THE ROOM WITH THE FIRST STUDENT. LEAVE THE OTHERS OUTSIDE THE ROOM.

POINT TO ONE OF THE TYPES OF INDIRECT BEDDING CAGE AND ASK "WHAT KIND OF CAGE IS THAT?"

IF THE STUDENT GIVES A WRONG ANSWER, DON'T SAY ANYTHING RIGHT AWAY. WAIT FOR A MINUTE TO GIVE HIM A CHANCE TO CHANGE HIS ANSWER.

IF THE STUDENT STILL DOESN'T KNOW THE RIGHT ANSWER, REPEAT THE PRACTICE EXERCISE WITH HIM. THEN COME BACK TO THE MASTERY EXERCISE, TO MAKE SURE THAT HE HAS MASTERY OF THE SKILL BEFORE YOU GO ON.

WHEN THE STUDENT GIVES A RIGHT ANSWER, SAY "GOOD" OR "RIGHT."

SAY "OPEN THE CAGE AND CLOSE IT CORRECTLY. THEN REMOVE IT FROM THE RACK AND REPLACE IT."

SAY "REMOVE THE FEEDER AND WATER BOTTLE FROM THE CAGE, THEN REPLACE THEM."

(ACT AS YOU DID EARLIER IF THE STUDENT DOES ANY OF THESE THINGS INCORRECTLY.)

ASK THE STUDENT "WHAT KIND OF ANIMAL IS KEPT IN THIS CAGE?" THEN ASK HIM "LOOK AT THE CHART ON PAGE 8-6 OF YOUR MANUAL AND TELL ME HOW MANY OF THAT KIND OF ANIMAL CAN BE KEPT IN THIS CAGE."

(AGAIN, ACT AS YOU DID EARLIER IF THE STUDENT GIVES YOU A WRONG ANSWER.)

REPEAT THE PROCEDURES WITH EACH OF THE INDIRECT BEDDING CAGES COVERED IN THIS LESSON.

REPEAT THE EXERCISE WITH EACH OF THE REMAINING STUDENTS.

AS EACH STUDENT FINISHES CORRECTLY, SIGN HIS LESSON CERTIFICATE.

Instructor:

Before meeting with Students, do the following (check when done):

- ☐ Review the Practice and Mastery Exercises at the end of this Lesson.
- ☐ Review the A-V Lesson.
- ☐ Make notes regarding any facility differences (procedures that differ from those shown in the A-V presentation). Space is provided on the left-hand pages of this manual.
- ☐ Prepare an area for the Practice and Mastery sessions.

Only after you have done all of the above:

- ☐ Have the Student view the A-V as many times as he likes.
- ☐ Take the Student to the appropriate area so he can practice the skills described on the practice sheet.
- ☐ When you feel that the Student has mastered the material, take the Mastery Exercise sheet and follow directions exactly as written.

Lesson 10

SPECIAL CAGING

SCHEDULE CHART

☐ VIEW Audio-visual Demonstration Exercise, summarized on pages 10-1 through 10-3, in Room __________. View it as many times as you want.

☐ MEET ____________________ at __________ on __________

instructor time date

in ____________________ for Practice and Mastery

room and bldg.

exercises.

Instructor:

☐ What kind of special purpose cages are used in your facility?

For what purpose are they used?

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☐ SPECIAL CAGES are used for SPECIAL PURPOSES.

☐ Such purposes might be

- measuring an animal's activity
- measuring an animal's rate of metabolism
- controlling the air an animal breathes

☐ The ACTIVITY cage is used to MEASURE an animal's EXERCISE on a COUNTER.

☐ For example, a rat running in a wheel turns the wheel and a digital counter counts the number of times the wheel goes round.

☐ The FILTER-TOP cage is used to CONTROL the animal's ENVIRONMENT.

☐ The white POLYESTER or PAPER TOP fits right on the regular shoebox ca

☐ It screens OUT bacteria and other micro-organisms.

☐ The AIR can get into the cage ONLY through the FILTER. NO DUST or GERMS can get through.

In addition:

Some activity cages use ELECTRONIC EQUIPMENT to record the amount of activity of the caged animal.

The FILTER top may be PERMANENT or DISPOSABLE.

Filter tops come in DIFFERENT SIZES to fit DIFFERENT sized CAGES.

Instructor:

☐ Are there any special procedures for setting up special purpose cages in your facility?

☐ The METABOLISM cage is used to collect the animals' WASTE MATERIAL.

☐ URINE collected this way in BOTTLES can be analyzed.

☐ The FEEDER is OUTSIDE the cage, preventing spilling of the feed and keeping the animal out of the feeder.

☐ DIFFERENT animals require DIFFERENT metabolism cages, but all such cages work on the same principle whether used for mice or goats.

☐ The TRANSPORT, TRANSFER, or CARRYING cage is used in MOVING animals.

☐ This kind of cage usually has a HANDLE for carrying. The transport cage is the BEST way to carry a MONKEY.

☐ The DOORS of the monkey cage and the transport cage are OPENED at the SAME TIME and are closed when the monkey goes into the transport cage.

☐ Another kind of TRANSPORT cage, for dogs, sheep, and goats, is large and is PUSHED on WHEELS.

In addition:

The METABOLISM cage can be arranged so that feces and urine are COLLECTED separately or together.

Instructor:

☐ Door-to-door transfer reduces handling of the animal and lessens the chance of it escaping.
The door of the monkey transport is designed to match the door of the front-opening suspended cage.

☐ The GANG cage is like a pen but CLOSED on ALL SIDES.

☐ It is used to hold GROUPS of monkeys, dogs, or cats at once.

☐ It often has a RESTING BOARD for the animals.

☐ The BROODER is used for newly hatched baby CHICKS.

☐ It is electrically HEATED and controlled by THERMOSTAT.

☐ Feed and water are kept in TROUGHS that are PART of the brooder.

☐ The brooder is used until chicks are 6 TO 8 WEEKS OLD.

☐ Brooders can be placed in TIERS and each tier can be divided into SECTIONS.

In addition:

A MONKEY CHAIR can be used to RESTRICT movement of non-human primates.

The monkey is SECURED to the chair but CAN STILL FEED himself.

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PRACTICE EXERCISE

LESSON 10

INSTRUCTOR: AFTER THE STUDENTS HAVE VIEWED THE AUDIO-VISUAL DEMONSTRATION EXERCISE FOR LESSON 10, TAKE A COPY OF THE PRACTICE EXERCISE TO THE ROOM(S) IN WHICH THE PRACTICE EXERCISE WILL BE HELD.

SHOW EACH STUDENT ALL THE DIFFERENT TYPES OF SPECIAL CAGES USED IN YOUR FACILITY. IDENTIFY THEM BY NAME, THEN EXPLAIN WHAT THEY ARE USED FOR AND FOR WHICH ANIMALS.

SHOW EACH STUDENT HOW TO OPEN AND CLOSE EACH OF THE CAGES, AND HOW TO ATTACH AND REMOVE THE FEEDER AND THE WATER BOTTLE FOR EACH. EXPLAIN ANY SPECIAL INSTRUCTIONS FOR THE USE OF ANY OF THESE CAGES.

SHOW THE STUDENT HOW TO SET UP A CHICKEN BROODER.

WORK WITH THE STUDENTS IN HELPING THEM FILL OUT THE CHART ON PAGE 8-6 OF THE TRAINING MANUAL WHERE IT LISTS SPECIAL CAGES, AND SHOW HOW TO USE THE CHART TO DETERMINE HOW MANY ANIMALS TO PUT IN ANY OF THE SPECIAL CAGES.

AS SOON AS YOU FEEL THAT THE STUDENTS HAVE LEARNED THE NECESSARY SKILLS FOR THIS LESSON, YOU CAN GO ON TO THE MASTERY EXERCISE. UNTIL THAT TIME, CONTINUE ALLOWING THEM TO PRACTICE, HELPING THEM AS NEEDED.

MASTERY EXERCISE

LESSON 10

INSTRUCTOR: AFTER THE STUDENTS HAVE COMPLETED THE PRACTICE EXERCISE FOR LESSON 10, TAKE A COPY OF THE MASTERY EXERCISE AND GO TO THE ROOM(S) IN WHICH THE MASTERY EXERCISE WILL BE HELD.

SAY "We're going into a room (or "some rooms") to examine some special cages. Please wait outside the room until I call you. When you come in, I'll ask you what certain cages are, what they're used for, and for which animals.

GO INTO THE ROOM WITH THE FIRST STUDENT. LEAVE THE OTHER STUDENTS OUTSIDE THE ROOM.

POINT TO AN EXERCISE CAGE AND ASK "What's that wheel on the cage for?"

IF THE STUDENT GIVES A WRONG ANSWER, DON'T SAY ANYTHING RIGHT AWAY. WAIT FOR A MINUTE TO GIVE HIM A CHANCE TO CHANGE HIS ANSWER.

IF THE STUDENT STILL DOESN'T KNOW THE RIGHT ANSWER, REPEAT THE PRACTICE EXERCISE WITH HIM. THEN COME BACK TO THE MASTERY EXERCISE, TO MAKE SURE THAT HE HAS MASTERY OF THE SKILL BEFORE YOU GO ON.

WHEN THE STUDENT GIVES A RIGHT ANSWER, SAY "good" OR "right."

FOR ANY OTHER SPECIAL CAGES USED IN YOUR FACILITY, ASK "What is that cage called?"

THEN ASK "What kinds of animals is it used with?"

THEN ASK "Are there any special instructions on how to use this cage? Show me how to open and close it, and how to remove and attach the feeder and water bottle."

(ACT AS YOU DID EARLIER IF THE STUDENT GIVES A WRONG ANSWER TO ANY OF THESE QUESTIONS.)

NOW ASK THE STUDENT "Will you set up this chicken brooder so it's ready to use?"

(ACT AS YOU DID EARLIER IF THE STUDENT DOES SOMETHING INCORRECTLY OR MISSES ANY OF THE STEPS - ASSEMBLING THE BROODER, FILLING THE WATER AND FEED CONTAINERS, ATTACHING AND SETTING THE HEATING ELEMENT.)

REPEAT THE EXERCISE WITH EACH OF THE REMAINING STUDENTS.

AS EACH STUDENT FINISHES CORRECTLY, SIGN HIS LESSON CERTIFICATE.

Instructor:

Before meeting with Students, do the following (check when done):

- ☐ Review the Practice and Mastery Exercises at the end of this Lesson.
- ☐ Review the A-V Lesson.
- ☐ Make notes regarding any facility differences (procedures that differ from those shown in the A-V presentation). Space is provided on the left-hand pages of this manual.
- ☐ Prepare an area for the Practice and Mastery sessions.

Only after you have done all of the above:

- ☐ Have the Student view the A-V as many times as he likes.
- ☐ Take the Student to the appropriate area so he can practice the skills described on the practice sheet.
- ☐ When you feel that the Student has mastered the material, take the Mastery Exercise sheet and follow directions exactly as written.

Room Assignments	Practice	Mastery
Mouse		
Rat		
Hamster		
Guinea Pig		
Rabbit		

Lesson 11

HANDLING AND SEXING
RODENTS AND RABBITS

SCHEDULE CHART

☐ VIEW Audio-visual Demonstration Exercise, summarized on pages 11-1 through 11-8 , in Room __________. View it as many times as you want.

☐ MEET ____________________ at __________ on __________
Instructor time date

in __________________________ for Practice and Mastery
room and bldg.

Exercises.

Instructor:

☐ Talking to the animal before coming near to handle it is important.

☐ HANDLING an animal in the WRONG way can HURT it.

☐ The APPROACH to the animal is important. Let it know you are coming so you don't scare it.

☐ Animals can SENSE FEAR and then become harder to handle.

☐ DON'T take any chances. If necessary, go away and come back later.

In addition:

☐ Handling means you must CATCH, LIFT, and HOLD the animal.

☐ You must learn to do this SAFELY and COMFORTABLY -- for you AND the animal.

☐ In handling:

* Be relaxed and confident.
* Be gentle, firm, self-assured.
* Use a calm, gentle, conversational approach.
* Use restraint only if the calm approach fails.
* Many animals respond to petting and stroking by becoming tamer.
* Pregnant females, or females who have just given birth, need special care. Rough handling can cause an abortion in a pregnant female.
* Warn an animal when approaching; don't startle it.
* Never take chances. Recognize danger signals. Follow safety procedures. Ask for help. Use restraint devices.
* Do not place an animal on a slippery surface. Without sure footing it may panic.
* Practice, to make handling easier.

Instructor:

☐ How are mice handled and sexed in your facility?

☐ The MOUSE is not hard to handle and NOT LIKELY TO BITE.

☐ OPEN the cage, put ONE HAND in, bring your hand up BEHIND the mouse, and GRAB its TAIL.

☐ STOP the mouse by holding the tail, then MOVE your hand to the BASE of the tail, closest to its body.

☐ LIFT, holding the base of the tail. The mouse is the only animal that can be lifted this way.

☐ DO NOT lift by the TIP of the tail. That is painful and the mouse may bite.

☐ SET the mouse DOWN still holding the base of the tail and with the other hand grasp the LOOSE SKIN at the BACK of its NECK.

☐ Then TURN your hand over so the mouse is held in the hand, holding on to its neck skin.

☐ Its TAIL can be PRESSED against the palm with the 3rd and 4th (or 4th and 5th) fingers of the same hand.

☐ WEAR GLOVES when the animal is SICK.

☐ Otherwise try NOT to use gloves, so the animal can get used to being handled and will become tame.

☐ There is almost NO DIFFERENCE between MALE and FEMALE in handling mice.

In addition:

☐ DO NOT hold the mouse by the tail for any long period of time.

☐ If you hold the tip of the tail, it might BREAK or the mouse might climb back on its tail and BITE your finger.

☐ You can also CARRY the mouse in your palm. But be careful not to CRUSH it and remember that some mice BITE this way.

☐ Telling the different sexes apart is called SEXING.

☐ The animal's sex is usually POSTED on the CAGE.

☐ The SYMBOL for MALE is ♂. The SYMBOL for FEMALE is ♀.

☐ The MALE mouse has TESTICLES below the base of its tail.

☐ It is **BETTER** to HANDLE the mouse to examine it than simply to look.

☐ LIFT the mouse and SET it on the CAGE TOP. KEEP HOLD of its tail.

☐ PRESS on its hindquarters with the middle and ring fingers while you LIFT its tail with thumb and forefinger.

☐ EXAMINE its ANO-GENITAL DISTANCE, the distance between the anal opening and the genital opening, This is the MOST RELIABLE way to sex the mouse.

☐ The ANAL OPENING is nearest the TAIL, on top as you look at it.

☐ The ano-genital distance is GREATER in the MALE, TWICE what it is in the female.

☐ The FEMALE also has two rows of TEATS running the length of her UNDERSIDE.

Instructor:

☐ How are rats handled and sexed in your facility:

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☐ The RAT is handled almost the same as the mouse.

☐ Bring a HAND up BEHIND the rat.

☐ HOLD it in one place with a FINGER at the BASE of the tail.

☐ DO NOT pull the tail or lift by the tail; the rat is much heavier than the mouse.

☐ CIRCLE the neck with the THUMB and FOREFINGER of your free hand, till they nearly meet under the chin. Held this way the rat cannot bite.

☐ DO NOT squeeze so hard that the animal will choke.

☐ LIFT it out of its cage. Keep thumb and forefinger in place.

☐ TURN your hand so the rat RESTS on its back in your PALM.

☐ LIFT its TAIL and examine the ANO-GENITAL DISTANCE.

☐ The ano-genital distance is GREATER in the MALE.

☐ The MALE may also have prominent TESTICLES.

In addition:

☐ The MORE FREQUENTLY rats are handled, the TAMER they get.

☐ The TECHNICIAN becomes FAMILIAR to them.

☐ If the animal is known to bite, WEAR GLOVES.

☐ BUT wearing gloves is NOT RECOMMENDED usually because:

- You may hurt the animal.
- You may make it uncomfortable.
- You are not encouraging it to become tamer.

☐ It is better to USE YOUR HANDS and let him get to know you.

☐ The rat too can climb up its tail and BITE your finger if you lift it by its tail.

Instructor:

☐ The hamster is the most likely to bite of all the lab rodents.

☐ How are hamsters handled and sexed in your facility?

☐ The HAMSTER may BITE if handled, especially the FEMALE.

☐ Bring your hand up BEHIND the hamster, GRASPING it at the BACK of the NECK.

☐ DO NOT lift it. If you do it will TWIST around.

☐ With the other fingers of the hand with which you are holding it, PRESS it to the floor gently.

☐ Then GATHER up all the LOOSE SKIN at the neck, without choking the hamster.

☐ Now LIFT the hamster and TURN YOUR HAND so it lies in your palm.

☐ The ANAL OPENING, nearest the tail, is on the BOTTOM as you examine it this way.

☐ The ANO-GENITAL DISTANCE is GREATER in the MALE, but not so much as in the mouse or rat.

In addition:

☐ The hamster will REACT quickly to kind, sympathetic, firm handling.

☐ The MORE a hamster is handled, the TAMER it becomes.

☐ Use your HANDS rather than gloves or forceps.

☐ Keep your HANDS OFF the top of the cage to avoid being bitten.

☐ When the cage top is removed, hamsters will usually stand up to see what's happening or move rapidly on the cage floor.

☐ If the hamster seems to be sleeping, wake it gently before handling.

☐ If you leave too much slack skin at the neck, the hamster may turn around and bite.

Instructor:

☐ How are guinea pigs handled and sexed in your facility?

☐ The GUINEA PIG is NOT likely to BITE. But it may bite if excited or hurt.

☐ With your right hand GRIP the guinea pig around the MIDDLE, its SHOULDERS, like a football, with your THUMB extending behind its LEFT FRONT LEG.

☐ Start to LIFT, and with your left hand SUPPORT its REAR END, with your palm upwards.

☐ TURN your hands over as you lift, so the guinea pig lies in the palm of your right hand.

☐ DO NOT hold it too tightly.

☐ If it squirms, PULL it to your CHEST, holding it there gently.

☐ To SEX the guinea pig, hold its REAR LEGS apart with the fingers of your left hand.

☐ PRESS lightly in FRONT of the GENITAL OPENING.

☐ The PENIS will show if it is a MALE.

☐ The TEATS or the ANO-GENITAL distance will NOT WORK for sexing the guinea pig.

☐ Only the GENITAL OPENING will show if it is a female.

In addition:

☐ The guinea pig may SCRAMBLE and SQUIRM to get away if held too tightly.

☐ SUPPORTING the guinea pig is important, especially for pregnant females and larger animals.

Instructor:

☐ The instructions are given for a right-handed technician. Of course, a left-handed person would reverse these instructions.

☐ NEVER lift a RABBIT by its EARS alone.

☐ GRASP it by the SCRUFF OF THE NECK with the right hand and LIFT the animal only PART WAY. Be sure not to pinch the rabbit.

☐ With the left hand, SUPPORT its REAR END, pushing the LEGS firmly against its body.

☐ ALWAYS keep the rabbit's LEGS FACING AWAY from you.

☐ HOLD the rabbit by placing its HEAD under your ARM, with the head FACING BACKWARD. Control it by PRESSING against your side.

☐ A small rabbit can be SEXED in the same position as the guinea pig. REST the hindquarters on a TABLE. The rabbit is too heavy to hold in one hand.

☐ PRESS lightly above the GENITAL OPENING with your forefinger.

☐ The PENIS will show if it is a MALE.

☐ Only the GENITAL OPENING, a slanted slit, will show if it is a FEMALE.

☐ Use BOTH hands in returning the rabbit to its CAGE.

☐ Put it back FEET FIRST, just as you hold it, keeping the FEET POINTING AWAY from you.

☐ If you permit the rabbit to struggle, it may break its back.

In addition:

☐ If handled properly, the rabbit will NOT struggle.

☐ If it does struggle so much that you cannot handle it, STOP!

☐ Put it down; let it calm down. After it is calm, you may be able to handle it more easily.

☐ The reason for holding its legs so they face away from you is that the LEG MUSCLES are very POWERFUL and the rabbit can SCRATCH you badly.

Instructor:

☐ How are rabbits handled and sexed in your facility?

☐ To CALM an excited rabbit, hold it CLOSE to your body, COVER its EYES and EARS with one hand, and rock it GENTLY in your hands.

☐ NEVER place a rabbit on a smooth surface. It becomes terrified when it cannot get firm footing.

Instructor:

☐ How are other rodents handled and sexed in your facility?

PRACTICE EXERCISE

LESSON 11

INSTRUCTOR: AFTER THE STUDENTS HAVE VIEWED THE AUDIO-VISUAL DEMONSTRATION EXERCISE FOR LESSON 11, TAKE A COPY OF THE PRACTICE EXERCISE TO THE ROOM(S) IN WHICH THE PRACTICE EXERCISE WILL BE HELD.

SHOW EACH OF THE STUDENTS THE METHOD FOR LIFTING THE MOUSE, RAT, HAMSTER, GUINEA PIG AND RABBIT FROM THE CAGE, HOW TO CARRY EACH, HOLD IT, AND RETURN IT TO THE CAGE.

SHOW EACH STUDENT BOTH A MALE AND FEMALE OF EACH SPECIES, AND DISCUSS HOW TO TELL THE DIFFERENCE BETWEEN THEM.

AS SOON AS YOU FEEL THAT THE STUDENTS HAVE LEARNED THE NECESSARY SKILLS FOR THIS LESSON, YOU CAN GO ON TO THE MASTERY EXERCISE. UNTIL THAT TIME, CONTINUE ALLOWING THEM TO PRACTICE, HELPING THEM AS NEEDED.

MASTERY EXERCISE

LESSON 11

INSTRUCTOR: AFTER THE STUDENTS HAVE COMPLETED THE PRACTICE EXERCISE FOR LESSON 11, TAKE A COPY OF THE MASTERY EXERCISE AND GO TO THE ROOM(S) IN WHICH THE MASTERY EXERCISE WILL BE HELD.

SAY "WE ARE GOING TO HANDLE AND SEX THE RODENTS AND RABBITS. PLEASE WAIT OUTSIDE THE ROOM UNTIL I CALL YOU IN, ONE AT A TIME. WHEN YOU COME IN, I'LL POINT TO DIFFERENT ANIMALS AND ASK YOU TO HANDLE THEM AND DETERMINE THEIR SEX."

GO INTO THE ROOM WITH THE FIRST STUDENT. LEAVE THE OTHER STUDENTS OUTSIDE THE ROOM.

POINT TO ONE OF THE RODENTS (OR RABBITS) AND SAY, "TAKE THAT ANIMAL FROM THE CAGE AND HOLD IT."

ASK "WHAT SEX IS IT?"

THEN SAY "NOW PUT IT BACK IN THE CAGE."

IF THE STUDENT GIVES A WRONG ANSWER OF PERFORMS ANY OF THE HANDLING INCORRECTLY, DON'T SAY ANYTHING RIGHT AWAY. WAIT FOR A MINUTE TO GIVE HIM A CHANCE TO CHANGE HIS ANSWER.

IF AT ANY POINT IN THE ABOVE SEQUENCE THE STUDENT BEGINS TO HANDLE THE ANIMAL IN A WAY THAT MAY BE DANGEROUS TO THE STUDENT OR PAINFUL TO THE ANIMAL, GENTLY STOP HIM. EXPLAIN WHAT MAY HAPPEN DOING IT THE WAY HE WAS, AND GO BACK TO THE PRACTICE EXERCISE.

IF THE STUDENT STILL DOESN'T KNOW THE RIGHT ANSWER, REPEAT THE PRACTICE EXERCISE WITH HIM. THEN COME BACK TO THE MASTERY EXERCISE, TO MAKE SURE THAT HE HAS MASTERY OF THE SKILL BEFORE YOU GO ON.

WHEN THE STUDENT GIVES A RIGHT ANSWER, SAY "GOOD" OR "RIGHT."

ASK "FIND AN ANIMAL OF THE SAME KIND BUT OF THE OPPOSITE SEX AND BRING IT TO ME."

THEN SAY "NOW RETURN IT TO ITS CAGE."

(ACT AS YOU DID EARLIER IF THE STUDENT GIVES A WRONG ANSWER, HANDLES THE ANIMAL INCORRECTLY, OR DOES SOMETHING UNSAFE.)

REPEAT THE ABOVE STEPS FOR EACH OF THE ANIMALS COVERED IN THE LESSON.

REPEAT THE EXERCISE WITH EACH OF THE REMAINING STUDENTS.

AS EACH STUDENT FINISHES CORRECTLY, SIGN HIS LESSON CERTIFICATE.

Instructor:

Before meeting with Students, do the following (check when done):

☐ Review the Practice and Mastery Exercises at the end of this Lesson.

☐ Review the A-V Lesson.

☐ Make notes regarding any facility differences (procedures that differ from those shown in the A-V presentation). Space is provided on the left-hand pages of this manual.

☐ Prepare an area for the Practice and Mastery sessions.

Only after you have done all of the above:

☐ Have the Student view the A-V as many times as he likes.

☐ Take the Student to the appropriate area so he can practice the skills described on the practice sheet.

☐ When you feel that the Student has mastered the material, take the Mastery Exercise sheet and follow directions exactly as written.

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Lesson 12

HANDLING AND SEXING CATS AND DOGS

SCHEDULE CHART

☐ VIEW Audio-visual Demonstration Exercise, summarized on pages 12-1 through 12-5, in Room __________. View it as many times as you want.

☐ MEET ____________________ at __________ on __________
Instructor time date

in _________________________ for Practice and Mastery Exercises.
room and bldg.

Instructor:

☐ What are the techniques for handling cats in your facility?

☐ The proper APPROACH to an animal is one of the most important techniques in handling.

☐ Make some kind of NOISE to let the animal know you are coming.

☐ Do NOT frighten it with loud noises or sudden movements.

☐ Even a friendly animal wants to know YOU are friendly before you reach for it.

☐ Then let it SNIFF you. Hold your hand part way into the cage and call it.

☐ A cat or dog just out of an animal shelter may not want to come to you.

☐ In this case, slide your hand toward it SLOWLY along the cage floor and let it sniff you.

☐ Then begin to scratch or pet it.

In addition:

Wilder cats should be screened out ahead of time. The technician should only have to handle gentle cats.

Any cat that is afraid or in pain will be more likely to bite or scratch.

☐ While petting the CAT, move your hand along its back to the NECK.

☐ Then GRASP the skin at the back of the neck, keeping your forearm along the animal's back.

☐ Slip the other arm under the cat's BODY from the side, with your hand, palm up, between its front legs.

☐ Then LIFT the cat with both hands.

☐ To hold the cat for a while or carry it somewhere, hold it against your side, pressing it lightly against your body.

☐ In handling cats, wear long sleeves as PROTECTION against sharp claws and teeth.

☐ Do not manhandle a cat.

☐ Calm the cat; don't fight it. If it bristles, try to quiet it.

☐ If you try to overpower a cat, it will probably fight. The cat is quick and strong, but it is small.

☐ Either the handler or the cat may be injured in a fight.

In addition:

☐ The less restraint with cats, the better.

☐ To SEX a cat or kitten, place it on the table.

☐ Talk to it and pet it if it is friendly.

☐ Put it on a slanted SCREEN if it is excited and may claw. The cat will dig in on a screen and not concentrate on the handler.

☐ HOLD the cat in place with one hand.

☐ With the other hand, LIFT the tail up.

☐ See if it has testicles; if it does, it is a male cat (tom cat).

☐ Examine the ANO-GENITAL distance. The distance is shorter in the female than in the male.

☐ The ano-genital distance must be used for a cat with no testicles. It may be a neutered male.

Instructor:

☐ How are dogs handled in your facility?

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☐ Let a DOG hear and see you as you approach.

☐ Talk to it. Do not surprise it. Open the cage door slowly.

☐ Call it to you. Move slowly. Let the dog sniff your hand.

☐ If it growls or bares its teeth or bristles, GET HELP. Do NOT try to handle an angry dog alone.

☐ Do NOT grab a dog.

☐ Do NOT reach over a dog's head. It feels threatened if you do.

☐ Lift and hold a small dog in the same way as a cat: one hand to hold its weight, the other hand at the nape of the neck.

☐ Keep your arm in line with the dog's spine to avoid being bitten.

☐ Move your hand slowly and firmly along its body.

☐ To move a large dog, DON'T lift and carry. Use a transport cart.

☐ To lift a big dog, kneel beside it and put one arm around its rump. Place the other arm around its chest.

☐ Your hands should be flat against its side, holding the dog firmly to your body.

☐ Then lift it up.

☐ If the dog has a wound or has been operated on, DON'T put weight on the sore area.

☐ For very large dogs, two people or a transport cart are needed.

☐ To SEX the dog, look first for testicles.

☐ Only the MALE has testicles.

☐ Just above them is a sheath of skin covering the PENIS.

☐ Lift the tail, even though lifting isn't absolutely necessary to sex a dog. It usually is enough just to look underneath.

☐ A neutered male dog would still have a penis even if the testicles were removed.

☐ The FEMALE dog, sometimes called the bitch, has NO testicles or penis.

☐ Its genital opening is called the vulva.

PRACTICE EXERCISE

LESSON 12

INSTRUCTOR: AFTER THE STUDENTS HAVE VIEWED THE AUDIO-VISUAL DEMONSTRATION EXERCISE FOR LESSON 12, TAKE A COPY OF THE PRACTICE EXERCISE TO THE ROOM(S) IN WHICH THE PRACTICE EXERCISE WILL BE HELD.

SHOW EACH OF THE STUDENTS THE METHODS FOR LIFTING A CAT OR DOG FROM ITS CAGE, CARRYING IT, HOLDING IT, AND RETURNING IT TO THE CAGE.

SHOW EACH STUDENT A MALE, A FEMALE AND A CASTRATED MALE CAT AND DOG, AND DISCUSS HOW TO TELL THE DIFFERENCE BETWEEN THEM.

AS SOON AS YOU FEEL THAT THE STUDENTS HAVE LEARNED THE NECESSARY SKILLS FOR THIS LESSON, YOU CAN GO ON TO THE MASTERY EXERCISE. UNTIL THAT TIME, CONTINUE ALLOWING THEM TO PRACTICE, HELPING THEM AS NEEDED.

MASTERY EXERCISE

LESSON 12

INSTRUCTOR: AFTER THE STUDENTS HAVE COMPLETED THE PRACTICE EXERCISE FOR LESSON 12, TAKE A COPY OF THE MASTERY EXERCISE AND GO TO THE ROOM(S) IN WHICH THE MASTERY EXERCISE WILL BE HELD.

SAY "WE ARE GOING TO HANDLE AND SEX CATS AND DOGS. PLEASE WAIT OUTSIDE THE ROOM UNTIL I CALL YOU IN, ONE AT A TIME. I'LL POINT TO DIFFERENT CATS AND DOGS AND ASK YOU TO HANDLE THEM AND DETERMINE THEIR SEX."

GO INTO THE ROOM WITH THE FIRST STUDENT. LEAVE THE REMAINING STUDENTS OUTSIDE THE ROOM.

POINT TO A CAT AND SAY "TAKE THAT CAT FROM THE CAGE AND HOLD IT."

IF THE STUDENT DOES SOMETHING WRONG, DON'T SAY ANYTHING RIGHT AWAY. WAIT FOR A MINUTE TO GIVE HIM A CHANCE TO CHANGE HIS ANSWER.

IF AT ANY POINT IN THE ABOVE SEQUENCE THE STUDENT BEGINS TO HANDLE THE ANIMAL IN A WAY THAT MAY BE DANGEROUS TO THE STUDENT OR PAINFUL TO THE ANIMAL, GENTLY STOP HIM. EXPLAIN WHAT MAY HAPPEN DOING IT THE WAY HE WAS, AND GO BACK TO THE PRACTICE EXERCISE.

IF HE STILL DOESN'T KNOW THE RIGHT ANSWER, REPEAT THE PRACTICE EXERCISE WITH HIM. THEN COME BACK TO THE MASTERY EXERCISE, TO MAKE SURE THAT HE HAS MASTERY OF THE SKILL BEFORE YOU GO ON.

WHEN THE STUDENT GIVES A RIGHT ANSWER, SAY "GOOD" OR "RIGHT."

NOW SAY "WHAT SEX IS THAT CAT? PUT IT BACK, THEN LOOK AROUND AND FIND A CAT OF THE OPPOSITE SEX."

(ACT AS YOU DID EARLIER IF THE STUDENT GIVES A WRONG ANSWER.)

SAY "NOW FIND A MALE DOG AND TAKE IT FROM ITS CAGE CORRECTLY."

(ACT AS YOU DID EARLIER IF THE STUDENT DOES SOMETHING THAT IS INCORRECT OR THAT MAY BE UNSAFE.)

SAY "Now PUT HIM BACK, THEN POINT TO A FEMALE DOG. Now POINT TO A CASTRATED MALE DOG."

(ACT AS YOU DID EARLIER IF THE STUDENT DOES SOMETHING THAT IS INCORRECT OR THATMAY BE UNSAFE.)

REPEAT THE EXERCISE FOR EACH OF THE REMAINING STUDENTS.

AS EACH STUDENT FINISHES CORRECTLY, SIGN HIS LESSON CERTIFICATE.

Instructor:

Before meeting with Students, do the following (check when done):

- ☐ Review the Practice and Mastery Exercises at the end of this Lesson.
- ☐ Review the A-V Lesson.
- ☐ Make notes regarding any facility differences (procedures that differ from those shown in the A-V presentation). Space is provided on the left-hand pages of this manual.
- ☐ Prepare an area for the Practice and Mastery sessions.

Only after you have done all of the above:

- ☐ Have the Student view the A-V as many times as he likes.
- ☐ Take the Student to the appropriate area so he can practice the skills described on the practice sheet.
- ☐ When you feel that the Student has mastered the material, take the Mastery Exercise sheet and follow directions exactly as written.

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(ACT AS YOU DID EARLIER IF THE STUDENT DOES SOMETHING THAT IS INCORRECT OR THAT MAY BE UNSAFE.)

SAY "NOW PUT HIM BACK, THEN POINT TO A FEMALE DOG. NOW POINT TO A CASTRATED MALE DOG."

(ACT AS YOU DID EARLIER IF THE STUDENT DOES SOMETHING THAT IS INCORRECT OR THATMAY BE UNSAFE.)

REPEAT THE EXERCISE FOR EACH OF THE REMAINING STUDENTS.

AS EACH STUDENT FINISHES CORRECTLY, SIGN HIS LESSON CERTIFICATE.

Instructor:

Before meeting with Students, do the following (check when done):

- ☐ Review the Practice and Mastery Exercises at the end of this Lesson.
- ☐ Review the A-V Lesson.
- ☐ Make notes regarding any facility differences (procedures that differ from those shown in the A-V presentation). Space is provided on the left-hand pages of this manual.
- ☐ Prepare an area for the Practice and Mastery sessions.

Only after you have done all of the above:

- ☐ Have the Student view the A-V as many times as he likes.
- ☐ Take the Student to the appropriate area so he can practice the skills described on the practice sheet.
- ☐ When you feel that the Student has mastered the material, take the Mastery Exercise sheet and follow directions exactly as written.

Lesson 13

HANDLING AND SEXING
NON-HUMAN PRIMATES

SCHEDULE CHART

☐ VIEW Audio-visual Demonstration Exercise, summarized on pages 13-1 through 13-2, in Room ________. View it as many times as you want.

☐ MEET ________________ at ________ on ________
Instructor time date
in ____________________ for Practice and Mastery
room and bldg.
Exercises.

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Instructor:

☐ List the primates in your facility the student should learn to handle and sex.

☐ SUIT UP in an anteroom before entering the MONKEY rooms.

☐ Wear a GOWN and BOOTS, a FACE MASK and a HAT.

☐ Put on double-layered leather GLOVES over a pair of rubber gloves.

☐ Use a SQUEEZE CAGE.

☐ If possible, work with SOMEONE ELSE, one to work the squeeze mechanism, the other to get the monkey out of the cage.

☐ TAKE the monkey by its UPPER ARM. It may fight, attempt to bite, and scream. But hold its arm and PULL it out of the cage. Hold it FACING AWAY from you.

☐ Get BOTH ARMS behind its BACK.

☐ With your other hand, GRASP its ANKLES. Keep its legs STRETCHED OUT.

☐ In this position, it can be LIFTED.

☐ If necessary, HOLD it STILL, FACE DOWN, on a TABLE, but not for too long.

☐ The ONLY reason to handle a monkey is for TREATMENT or another PROCEDURE.

☐ To MOVE a monkey, use a TRANSPORT CAGE.

In addition:

Monkeys are very STRONG for their size.

Monkeys can give a very painful BITE.

Handle monkeys firmly and confidently.

Instructor:

☐ How are squeeze cages operated in your facility?

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☐ SEX is obvious in the RHESUS monkey.

☐ The TESTICLES, SCROTAL SAC, and PENIS of the MALE are easy to see.

☐ The FEMALE, when it is in heat, shows SEX SKIN, an area on the rump and hind legs near the vulva that is swollen, red, and has a waffled appearance.

☐ The sex skin is more difficult to see when the female is NOT in heat.

☐ The rhesus monkey is FAST and STRONG. USE CAUTION in handling it.

☐ DISPOSE of your protective CLOTHING properly when leaving the area.

☐ LOCK UP carefully. The monkey area is ALWAYS kept locked.

THEN ASK "LOOK AROUND THE ROOM FOR ONE OF THE OPPOSITE SEX. POINT TO IT WHEN YOU FIND IT."

(ACT AS YOU DID EARLIER IF THE STUDENT GIVES AN INCORRECT ANSWER.)

REPEAT THESE STEPS FOR EACH OF THE DIFFERENT KINDS OF PRIMATES IN THE ROOM.

REPEAT THE ABOVE PROCEDURES IN THIS ROOM FOR EACH OF THE REMAINING STUDENTS.

REPEAT ALL THE ABOVE PROCEDURES WITH EACH STUDENT IN AS MANY PRIMATE ROOMS AS ARE NECESSARY TO COVER THE REMAINING KINDS OF PRIMATES IN YOUR FACILITY.

TELL THE STUDENT "USE A SQUEEZE CAGE TO MOVE A PRIMATE INTO A TRANSPORT CAGE. THEN MOVE IT BACK INTO THE SQUEEZE CAGE."

(ACT AS YOU DID EARLIER IF THE STUDENT DOES SOMETHING INCORRECTLY OR SOMETHING UNSAFE.)

REPEAT THE PROCEDURE FOR EACH OF THE REMAINING STUDENTS.

AS EACH STUDENT FINISHES CORRECTLY, SIGN HIS LESSON CERTIFICATE.

Instructor:

Before meeting with Students, do the following (check when done):

- ☐ Review the Practice and Mastery Exercises at the end of this Lesson.
- ☐ Review the A-V Lesson.
- ☐ Make notes regarding any facility differences (procedures that differ from those shown in the A-V presentation). Space is provided on the left-hand pages of this manual.
- ☐ Prepare an area for the Practice and Mastery sessions.

Only after you have done all of the above:

- ☐ Have the Student view the A-V as many times as he likes.
- ☐ Take the Student to the appropriate area so he can practice the skills described on the practice sheet.
- ☐ When you feel that the Student has mastered the material, take the Mastery Exercise sheet and follow directions exactly as written.

PRACTICE EXERCISE

LESSON 13

INSTRUCTOR: AFTER THE STUDENTS HAVE VIEWED THE AUDIO-VISUAL DEMONSTRATION EXERCISE FOR LESSON 13, TAKE A COPY OF THE PRACTICE EXERCISE TO THE ROOM(S) IN WHICH THE PRACTICE EXERCISE WILL BE HELD.

SHOW EACH STUDENT HOW TO HANDLE AND SEX (BOTH THE MALE AND FEMALE) ALL THE PRIMATES HOUSED IN YOUR FACILITY. START WITH THE SMALLEST AND LEAST AGGRESSIVE OF THE PRIMATES AND WORK UP TO THOSE THAT ARE STRONGER AND MORE DIFFICULT TO HANDLE.

SHOW EACH STUDENT HOW TO USE A SQUEEZE CAGE TO GET A PRIMATE INTO A TRANSFER CAGE. THEN SHOW HIM HOW TO RETURN THE PRIMATE TO THE SQUEEZE CAGE.

AS SOON AS YOU FEEL THAT THE STUDENTS HAVE LEARNED THE NECESSARY SKILLS FOR THIS LESSON, YOU CAN GO ON TO THE MASTERY EXERCISE. UNTIL THAT TIME, CONTINUE ALLOWING THEM TO PRACTICE, HELPING THEM AS NEEDED.

MASTERY EXERCISE

LESSON 13

INSTRUCTOR: AFTER THE STUDENTS HAVE COMPLETED THE PRACTICE EXERCISE FOR LESSON 13, TAKE A COPY OF THE MASTERY EXERCISE AND GO TO THE ROOM(S) IN WHICH THE MASTERY EXERCISE WILL BE HELD.

SAY "WE ARE GOING TO DIFFERENT PRIMATE AREAS. PLEASE WAIT OUTSIDE EACH ROOM UNTIL I CALL YOU IN, ONE AT A TIME. YOU WILL BE ASKED TO HANDLE AND SEX SEVERAL PRIMATES AND TO OPERATE A SQUEEZE CAGE.

GO INTO THE FIRST ROOM WITH THE FIRST STUDENT. LEAVE THE OTHER STUDENTS OUTSIDE THE ROOM.

POINT TO ONE OF THE PRIMATES AND SAY "TAKE THAT PRIMATE FROM THE CAGE AND HOLD IT."

IF THE STUDENT PERFORMS ANY OF THE HANDLING INCORRECTLY, DON'T SAY ANYTHING RIGHT AWAY. WAIT FOR A MINUTE TO GIVE HIM A CHANCE TO CHANGE HIS ANSWER.

IF AT ANY POINT IN THE ABOVE SEQUENCE THE STUDENT BEGINS TO HANDLE THE ANIMAL IN A WAY THAT MAY BE DANGEROUS TO THE STUDENT OR PAINFUL TO THE ANIMAL, GENTLY STOP HIM. EXPLAIN WHAT MAY HAPPEN DOING IT THE WAY HE WAS, AND GO BACK TO THE PRACTICE EXERCISE.

IF THE STUDENT STILL DOESN'T KNOW THE RIGHT ANSWER, REPEAT THE PRACTICE EXERCISE WITH HIM. THEN COME BACK TO THE MASTERY EXERCISE, TO MAKE SURE THAT HE HAS MASTERY OF THE SKILL BEFORE YOU GO ON.

WHEN THE STUDENT GIVES A RIGHT ANSWER, SAY "GOOD" OR "RIGHT."

SAY "PLEASE RETURN THE PRIMATE TO THE CAGE."

(ACT AS YOU DID EARLIER IF THE STUDENT HANDLES THE ANIMAL INCORRECTLY OR DOES SOMETHING UNSAFE.)

ASK "WHAT SEX WAS THAT PRIMATE?"

Lesson 14

HANDLING AND SEXING FARM ANIMALS

SCHEDULE CHART

☐ VIEW Audio-visual Demonstration Exercise, summarized on pages 14-1 through 14-9, in Room __________. [illegible]ew it as many times as you want.

☐ MEET ____________________ at __________ on __________
Instructor — time — date

in __________________________ for Practice and Mastery Exercises.
room and bldg.

Instructor:

☐ How are sheep handled in your facility?

SHEEP are shy and timid.

☐ A sheep is more likely to hurt itself than to hurt anyone else.

☐ Sheep scare easily, panic, and run.

☐ An excited sheep crashing into something can tear its skin [illegible] break bones.

☐ Let sheep know you are coming by talking or whistling. Don't make sudden movements. Talk to them. Be calm and patient.

☐ Sniffing the handler's hand or petting and scratching DON'T mean much to sheep.

☐ To MOVE a sheep, walk behind it and herd it.

☐ Or just simply lead it where you want.

☐ If necessary, stand beside the sheep and slide one hand under its chin, without grabbing the wool, which hurts the skin.

☐ Put the other hand on the sheep's back.

☐ Then press UNDER the chin to bring the sheep's head up.

☐ To try to get its head down, the sheep will move backward.

☐ So, to get it to move, just keep its head up.

☐ Back it into a corner of the pen; it won't have much room to move around.

☐ To hold a sheep when there is no pen corner, kneel beside it with one arm under its chin and the other around the hindquarters.

☐ A small sheep can be lifted this way if it must be carried.

☐ It is best to use a transport cart to move a sheep.

In addition:

Do not pull a sheep's horns or wool. This excites it and may damage the skin.

☐ To SEX a sheep, raise its tail.

☐ The male sheep, called a ram, obviously has a scrotal sac, containing testicles, unless the animal has been neutered.

☐ The penis of the male is not obvious; its normal place is inside the animal's body.

☐ The female sheep is called a ewe.

☐ The ewe has a vulva, a vaginal opening.

☐ She also has prominent teats, grouped together on her underside in an udder.

☐ A castrated male, called a wether, has a penis but no testicles.

Instructor:

☐ How are goats handled in your facility?

☐ GOATS look like sheep but act quite differently.

☐ Goats are playful, curious, and affectionate.

☐ But warn them of your approach by whistling or talking.

☐ Then scratch or pet them and continue to talk to them.

☐ The goat may butt, but usually it is in fun. However, face the goat whenever possible.

☐ DON'T turn your back on a goat; you may get butted.

☐ The goat can be handled like a sheep.

☐ If it can't be led, it can be backed into a pen corner by the method of holding its head up.

☐ Grip a horn with one hand and lift its head with the other under its chin. It will back up.

☐ A goat can be transported like a sheep.

In addition:

☐ Never hold a goat by the ears.

☐ Never throw a goat on its side or set it on its hindquarters.

☐ A goat that has been carelessly handled may become stubborn.

☐ Male and female goats both have horns.

☐ The male goat has a penis as well as testicles in a scrotal sac unless it has been castrated.

☐ The female goat has a vulva.

☐ The female goat also has a large, low-hanging udder, more like the cow's than the smaller one of the sheep.

☐ Goats make fine pets.

Instructor:

☐ How are pigs handled in your facility?

☐ The PIG is the most intelligent of the farm animals.

☐ As with the other animals, let the pig hear you coming.

☐ The pig has poor eyesight, so make sure it sees you coming.

☐ Move slowly and don't appear suddenly or it may become frightened.

☐ Pigs can be stubborn and independent.

☐ They can bite, too, and may be dangerous.

☐ If treated gently, talked or sung to, and scratched, they can be easy to work with.

☐ Do NOT try to handle baby pigs (piglets) if the mother is near.

☐ Even if the pig looks solidly built, its thin legs break easily.

☐ So a pig should NOT be handled roughly.

☐ Do not try to lead a pig.

☐ A large pig cannot be turned or pushed forward.

☐ Hold its tail and guide it backward to where you want it.

☐ Don't pull hard on the tail.

☐ If necessary, put a bucket over the pig's head.

☐ To catch a small pig from behind, grab its hind legs by the upper part where they are stronger.

☐ Then put one hand under the pig to support it, and lift.

☐ Larger pigs require two people.

☐ But the very big ones, the 400 pounders, aren't lifted at all.

In addition:

Never lift a small pig by its ears or tail. This is painful. The small pig is handled and carried like a small dog. Hold a pig firmly. They squirm and wriggle.

The male pig has visible testicles unless it has been castrated, but its penis is inside its body.

The ano-genital distance of the male is twice that of the female.

The vulva of the female pig (sow) is quite easy to see.

Instructor:

☐ How are poultry handled in your facility?

☐ CHICKENS are not smart, and they are excitable.

☐ Be quiet, and slow, and calm when you are catching one.

☐ Approach the bird from behind.

☐ Moving quickly but gently, place BOTH hands on its sides and back.

☐ The fingers are spread to hold the chicken's wings down.

☐ It can't peck if it is held back far enough.

☐ Do not grab a chicken by the legs; it will flap its wings violently and may break them or injure the handler.

☐ Then, slide one hand under the bird, with the first two fingers between the legs.

☐ The other hand holds the wings.

☐ Lift, keeping the chicken away from the face. The chicken can attack with claws, beak, or wings.

☐ Chickens have NO external genitals.

☐ To sex a chicken, look to see if it has a large, thick COMB on top of its head and a large, thick WATTLE under its chin.

☐ Those are the signs of a rooster, the male of the chicken.

☐ The hen's comb and wattle are smaller and not as thick.

☐ The real test, of course, is that only the hen lays eggs.

PRACTICE EXERCISE

LESSON 14

INSTRUCTOR: AFTER THE STUDENTS HAVE VIEWED THE AUDIO-VISUAL DEMONSTRATION EXERCISE FOR LESSON 14, TAKE A COPY OF THE PRACTICE EXERCISE TO THE ROOM(S) IN WHICH THE PRACTICE EXERCISE WILL BE HELD.

SHOW AND DISCUSS WITH EACH STUDENT HOW TO APPROACH SHEEP, GOATS AND PIGS IN A PEN, HOW TO HOLD THEM, AND HOW TO LOAD THEM FROM A TRANSPORT CART.

SHOW EACH STUDENT THE MALE, THE FEMALE, AND THE CASTRATED MALE SHEEP, GOAT AND PIG. DISCUSS HOW TO TELL THE DIFFERENCES.

DEMONSTRATE THE WAY TO TAKE A CHICKEN FROM ITS CAGE AND HOLD IT, AND SHOW HOW TO TELL THE MALE FROM THE FEMALE.

AS SOON AS YOU FEEL THAT THE STUDENTS HAVE LEARNED THE NECESSARY SKILLS FOR THIS LESSON, YOU CAN GO ON TO THE MASTERY EXERCISE. UNTIL THAT TIME, CONTINUE ALLOWING THEM TO PRACTICE, HELPING THEM AS NEEDED.

MASTERY EXERCISE

LESSON 14

INSTRUCTOR: AFTER THE STUDENTS HAVE COMPLETED THE PRACTICE EXERCISE FOR LESSON 14, TAKE A COPY OF THE MASTERY EXERCISE AND GO TO THE ROOM(S) IN WHICH THE MASTERY EXERCISE WILL BE HELD.

SAY "WE ARE GOING TO HANDLE AND SEX THE DIFFERENT FARM ANIMALS. PLEASE WAIT OUTSIDE THE DOOR UNTIL I CALL YOU IN, ONE AT A TIME. I'LL BE POINTING TO DIFFERENT FARM ANIMALS AND ASKING YOU TO HANDLE THEM AND TO TELL WHAT SEX THEY ARE."

GO INTO THE ROOM WITH THE FIRST STUDENT. LEAVE THE REMAINIING STUDENTS OUTSIDE THE ROOM.

SAY "GO INTO THAT PEN OVER THERE AND FIND A MALE SHEEP. SHOW ME HOW TO HOLD IT CORRECTLY, THEN GET IT INTO THIS TRANSPORT CART AND BRING IT HERE."

IF THE STUDENT DOES SOMETHING WRONG, DON'T SAY ANYTHING RIGHT AWAY. WAIT FOR A MINUTE TO GIVE HIM A CHANCE TO CHANGE HIS ANSWER.

IF AT ANY POINT IN THE ABOVE SEQUENCE THE STUDENT BEGINS TO HANDLE THE ANIMAL IN A WAY THAT MAY BE DANGEROUS TO THE STUDENT OR PAINFUL TO THE ANIMAL, GENTLY STOP HIM. EXPLAIN WHAT MAY HAPPEN DOING IT THE WAY HE WAS, AND GO BACK TO THE PRACTICE EXERCISE.

IF HE STILL DOESN'T KNOW THE RIGHT ANSWER, REPEAT THE PRACTICE EXERCISE WITH HIM. THEN COME BACK TO THE MASTERY EXERCISE, TO MAKE SURE THAT HE HAS MASTERY OF THE SKILL BEFORE YOU GO ON.

WHEN THE STUDENT GIVES A RIGHT ANSWER, SAY "GOOD" OR "RIGHT."

NOW SAY, "OKAY, RETURN HIM TO THE PEN AND POINT TO A FEMALE SHEEP IN THAT PEN. NOW POINT TO A CASTRATED MALE SHEEP."

(ACT AS YOU DID EARLIER IF THE STUDENT GIVES AN INCORRECT ANSWER.)

REPEAT ALL THE ABOVE STEPS FOR GOATS.

SAY "NOW TAKE THIS TRANSPORT CART INTO THIS PIG PEN, LOAD A PIG INTO IT AND BRING IT HERE."

(ACT AS YOU DID EARLIER IF THE STUDENT DOES SOMETHING INCORRECTLY OR THAT MAY BE UNSAFE.)

ASK "WHAT SEX IS THAT PIG? WHAT ARE THE OTHERS IN THE PEN (POINT TO THEM)?"

(ACT AS YOU DID EARLIER IF THE STUDENT GIVES A WRONG ANSWER.)

SAY "TAKE ONE OF THOSE CHICKENS OUT OF THE CAGE AND HOLD IT FOR A MINUTE."

(ACT AS YOU DID EARLIER IF THE STUDENT DOES SOMETHING THAT IS INCORRECT OR THAT MAY BE UNSAFE.)

ASK "IS THAT A MALE OR A FEMALE? RETURN IT TO ITS CAGE AND POINT TO ONE OF THE OPPOSITE SEX."

(ACT AS YOU DID EARLIER IF THE STUDENT DOES SOMETHING THAT IS INCORRECT OR THAT MAY BE UNSAFE.)

REPEAT THE EXERCISE FOR EACH OF THE REMAINING STUDENTS.

AS EACH STUDENT FINISHES CORRECTLY, SIGN HIS LESSON CERTIFICATE.

Instructor:

Before meeting with Students, do the following (check when done):

- ☐ Review the Practice and Mastery Exercises at the end of this Lesson.
- ☐ Review the A-V Lesson.
- ☐ Make notes regarding any facility differences (procedures that differ from those shown in the A-V presentation). Space is provided on the left-hand pages of this manual.
- ☐ Prepare an area for the Practice and Mastery sessions.

Only after you have done all of the above:

- ☐ Have the Student view the A-V as many times as he likes.
- ☐ Take the Student to the appropriate area so he can practice the skills described on the practice sheet.
- ☐ When you feel that the Student has mastered the material, take the Mastery Exercise sheet and follow directions exactly as written.

IDENTIFYING TOOLS, SUPPLIES, SPECIAL CLOTHING

SCHEDULE CHART

☐ VIEW Audio-visual Demonstration Exercise, summarized on pages 15-1 through 15-7, in Room ________. View it as many times as you want.

☐ MEET ____________ (Instructor) at ________ (time) on ________ (date) in ____________ (room and bldg.) for Practice and Mastery Exercises.

Instructor:

☐ In getting the technician to know the tools of his job, it is important to remember that he may never have seen some or any of them before and may not know what any of them are for.

☐ How does an animal technician obtain supplies, tools and special clothing in your facility?

The STOREROOM generally contains all supplies not kept in the animal rooms or the feed room.

This includes office supplies and the veterinarian's materials too.

Stores should be checked out with the storekeeper during the hours when the room is open.

A chart at the end of this lesson lists the tools the technician must be familiar with.

Kept in the storeroom are clean regular UNIFORMS for the technicians.

Protective CLOTHING is used to keep personal clothing free of dirt and disease-causing germs.

Some clothing is worn for special jobs, as protection against contamination in a quarantine area or in surgery.

THIN rubber GLOVES are worn in surgery or to handle sick or dead animals.

BROWN rubber GLOVES too can be worn in handling sick or dead animals, or to protect the skin when working with chemicals like cleaning disinfectants.

HEAVY leather GLOVES are worn whrn handling primates.

When hosing down a room or outdoor pen, the tech should wear BOOTS and APRON to keep from getting wet.

In addition:

The technician needs tools for many tasks:
- * Cleaning the animal room or wash area
- * Transporting animals
- * Measuring
- * Identifying animals
- * Restraining animals
- * Grooming animals
- * Laboratory procedures

A chart showing the uses of protective clothing is at the end of the lesson.
Such clothing must be used when called for, to prevent disease from spreading and to protect against bites or contamination.

☐ Among the handy, general tools the technician must use are

- Hammer
- Pliers
- Screwdriver
- Knife
- Plumber's friend (plunger)

☐ The PLUMBER'S FRIEND is used to clean clogged sinks or drains.

☐ PLIERS or SCREWDRIVER would be needed to tighten up part of the equipment.

☐ The claw end of the HAMMER is handy for prying open shipping crates, but there is also a special tool for that job.

Instructor:

☐ Which tools and supplies listed on the following pages are used in your facility?

☐ Some tools or pieces of equipment are used to restrain animals.

☐ An animal being restrained is held in a particular position while some procedure is being followed, like an injection.

☐ Sometimes, as with larger animals, restraint requires two people.

☐ But with the right restraint device, often it is just as easy for one person to do it.

☐ Among the devices used to keep the animal from struggling and injuring itself are

* boxes
* tie boards
* snares
* bags

☐ Rodents, rabbits, or cats can be put into a box.

☐ The cat can be restrained in a canvas bag.

☐ A dog can be muzzled.

☐ The muzzle fits over the dog's snout and helps to keep the animal from biting.

☐ A piece of gauze tied around the snout and behind the ears works well as a muzzle.

☐ A nasal snare is used to catch a pig by the snout and help move it.

☐ A catching net is used to catch a non-human primate.

☐ Easier still for handling the primate is the squeeze cage.

☐ The animal is held in place for the procedure without a struggle.

Instructor:

☐ There is a partial list of supplies at the end of this lesson. It is important for the technician to know where each of these is stored so that additional supplies can be gotten when needed.

☐ For CLEANING floors, cages and counter tops, tools include

- * wire brush
- * counter brush
- * radiator brush
- * dust pan
- * floor broom

☐ The bristles of the brushes and brooms all differ.

☐ The LONG-HANDLED RADIATOR BRUSH has soft bristles. It is used for getting into narrow places.

☐ The COUNTER BRUSH has stiffer bristles and is used to sweep off counter tops.

☐ The WIRE BRUSH, still stiffer, is used for tough cleaning job.

☐ The WIRE-HANDLED BOTTLE BRUSH is used in cleaning out bottles.

☐ There are several kinds of SCRUB BRUSHES for cages; the brushes themselves are the same, but the handles are different, depending on the kind of cage the brush is needed for.

☐ The SPONGE is used for the sink and the counter top, just like at home.

☐ The SCRAPER is used to get dried feces off a cage pan. It is used in the cage-washing room.

☐ The MOP, BUCKET (with wringer) and SQUEEGEE are used on the floors in animal rooms.

☐ The mop spreads the cleaning solution and scrubs the floor.

☐ The rubber squeegee moves the water to the drain.

☐ The SHOVEL is used to remove dirty bedding from an indoor pen.

☐ A HOSE would be used in an outdoor pen.

☐ Every room has a TRASH CAN for sweepings and other things that are to be thrown out.

☐ Trash cans are put on CAN DOLLIES, so they can be rolled easily no matter how heavy they are.

☐ FEED CANS also go on can dollies.

☐ In fact, most supplies can be moved without being carried by hand.

☐ A TABLE CART can be used for supplies, or a LOW-BED TRUCK for heavier things like crates or equipment. Both kinds are easy to push.

☐ There should be a regular place where these carts are kept.

Instructor:

☐ Lesson 28 will discuss ear punching in more detail.

☐ Special PLIERS are used to put ear tags on animals.

☐ This kind of tagging is used as a way of identification. EAR TAGS, COLLARS, and LEG BANDS for poultry are kept in the storeroom.

☐ One way to identify small animals is by marking their ears with an EAR PUNCH.

☐ The punch makes a hole or notch in the animal's ear.

☐ According to where the hole or notch is put on the ear, it is read like a number.

☐ For grooming the animals there are

* hair clippers
* nail or hoof trimmers
* dental scrapers
* combs and brushes

☐ These are used to keep the animals clean and to avoid getting their nails caught.

☐ DENTAL SCRAPERS are used to remove tartar from the animals' teeth.

☐ The NAIL TRIMMERS may be used for clipping rabbits' teeth also.

☐ The veterinarian's SUPPLIES include cotton balls, gauze bandage, adhesive tape, disposable syringes and needles, bandage scissors, and blood collecting tubes.

☐ The beginning technician may be asked to help in such procedures by restraining the animal or preparing it.

TOOLS	FUNCTION
Hose	wash floors and walls
Nozzle	wash floors and walls
Broom	sweep floors
Dust pan	collect sweepings
Shovel	collect soiled bedding
Counter brush	sweep into dust pan
Trash cans	store trash
Can dollies	roll trash and feed cans
Low-bed truck	move supplies and equipment
Table cart	move supplies
Putty knife	scrape soiled material from cages
Radiator brush	sweep in narrow areas
Mop head	wash floors
Wringer	remove excess water from mops
Mop bucket	hold solution for mops
Squeegee	remove excess water
Sponge	wash walls and counters
Bottle brush	wash bottles
Screwdriver	drive screws and bolts
Hammer	drive nails
Knife	open feed bales
Spatula	move powder on or off scale
Scoop	dispense feed
Refrigerator	keep feed cold
Measuring cup	measure solid or liquid
Ear-punch marker	put marks in ear
Ear-tag plier	put ear tags in animals
Muzzle	prevent animals from biting
Snare	restrain animals
Canvas bag	restrain animals
Restraining box	restrain animals
Catching net	restrain animals
Nail trimmer	trim nails
Hoof trimmer	trim hoofs
Hair clippers	trim hair
Thermometer (and lubricant)	record body or room temperature
Dairy brush	scrape cages
Dempster bin	collect garbage
Grease gun	grease equipment
Stainless-steel soaking sink	wash equipment
Wash rack	hold cages in cabinet washer
Transport rack	transport cages
Plumber's friend	free stopped drains
Grooming utensils	groom animals
Dipping chamber	dip animals
Dental scraper	clean tartar from teeth
Bandage scissors	remove bandages
Blood collecting tube	collect blood
Fecal cup	collect feces

SUPPLIES

Hand soap
Paper towels
Disinfectant
Plastic bags
Various labels
Record-keeping forms
Stationery supplies
Shipping containers

Animal collars and tags
Plastic idento-bands
Leg bands
Dye and applicator
Cotton balls
Gauze bandage
Adhesive tape
Disposable syringes and needles

PROTECTIVE CLOTHING

ITEM	WHEN USED	WHY
Regular uniform	Whenever in animal room	To protect street clothes from being contaminated
Rubber gloves	While handling various chemicals or contaminated cages or animals	To protect personnel from contamination or chemical burns
	Assisting in surgical procedures	To protect animals from contamination
Goggles, Surgical gown, Face Mask, Surgical Cap, Booties	Quarantine areas Surgery Radioactive work Infections Disease areas	To protect personnel or animals from contamination
Rubber apron	In areas where water is splashed, such as kennel or wash room	To keep technician dry
Rubber boots	In areas where water is splashed or where contamination is present	To keep technician free of contamination and/or dry
Leather gloves	To handle primates	To prevent technician from being bitten

PRACTICE EXERCISE

LESSON 15

INSTRUCTOR: AFTER THE STUDENTS HAVE VIEWED THE AUDIO-VISUAL DEMONSTRATION EXERCISE FOR LESSON 15, TAKE A COPY OF THE PRACTICE EXERCISE TO THE ROOM(S) IN WHICH THE PRACTICE EXERCISE WILL BE HELD.

SHOW EACH STUDENT ALL THE DIFFERENT SUPPLY ITEMS USED IN YOUR FACILITY.

EXPLAIN WHAT EACH ONE IS USED FOR, AND WHEN IT IS USED.

SHOW WHERE EACH ITEM IS STORED, AND DEMONSTRATE HOW TO ORDER EACH OF THE ITEMS THROUGH THE FACILITY'S SUPPLY SYSTEM.

AS SOON AS YOU FEEL THAT THE STUDENTS HAVE LEARNED THE NECESSARY SKILLS FOR THIS LESSON, YOU CAN GO ON TO THE MASTERY EXERCISE. UNTIL THAT TIME, CONTINUE ALLOWING THEM TO PRACTICE, HELPING THEM AS NEEDED.

MASTERY EXERCISE

LESSON 15

INSTRUCTOR: AFTER THE STUDENTS HAVE COMPLETED THE PRACTICE EXERCISE FOR LESSON 15, TAKE A COPY OF THE MASTERY EXERCISE AND GO TO THE ROOM(S) IN WHICH THE MASTERY EXERCISE WILL BE HELD.

SAY "We're going into some different rooms where there are a number of supplies used in the facility. Please wait outside until I call you in, one at a time. When I point at these supplies, I'll ask you to tell me what they are and what they're used for."

GO INTO THE FIRST ROOM WITH THE FIRST STUDENT. LEAVE THE REMAINING STUDENTS OUTSIDE THE ROOM.

POINT TO THE DIFFERENT SUPPLY ITEMS IN THE ROOM, EACH TIME ASKING "What is that and what's it used for? Where is it stored? What do you do to get one through our facility's supply system?"

IF THE STUDENT GIVES A WRONG ANSWER, DON'T SAY ANYTHING RIGHT AWAY. WAIT FOR A MINUTE TO GIVE HIM A CHANCE TO CHANGE HIS ANSWER.

IF HE STILL DOESN'T KNOW THE RIGHT ANSWER, REPEAT THE PRACTICE EXERCISE WITH HIM. THEN COME BACK TO THE MASTERY EXERCISE, TO MAKE SURE THAT HE HAS MASTERY OF THE SKILL BEFORE YOU GO ON.

WHEN THE STUDENT GIVES A RIGHT ANSWER, SAY "Good" OR "Right."

REPEAT THE ABOVE STEPS IN AS MANY ROOMS AS ARE NECESSARY TO COVER ALL THE VARIOUS SUPPLY ITEMS USED IN YOUR FACILITY.

THEN REPEAT THE EXERCISE WITH EACH OF THE REMAINING STUDENTS.

AS EACH STUDENT FINISHES CORRECTLY, SIGN HIS LESSON CERTIFICATE.

Instructor:

Before meeting with Students, do the following (check when done):

- ☐ Review the Practice and Mastery Exercises at the end of this Lesson.
- ☐ Review the A-V Lesson.
- ☐ Make notes regarding any facility differences (procedures that differ from those shown in the A-V presentation). Space is provided on the left-hand pages of this manual.
- ☐ Prepare an area for the Practice and Mastery sessions.

Only after you have done all of the above:

- ☐ Have the Student view the A-V as many times as he likes.
- ☐ Take the Student to the appropriate area so he can practice the skills described on the practice sheet.
- ☐ When you feel that the Student has mastered the material, take the Mastery Exercise sheet and follow directions exactly as written.

Lesson 16

IDENTIFYING MACHINERY

SCHEDULE CHART

☐ VIEW Audio-visual Demonstration Exercise, summarized on pages 16-1 through 16-4 , in Room __________. View it as many times as you want.

☐ MEET ____________________ at __________ on __________
Instructor time date

in __________________________ for Practice and Mastery
room and bldg.

Exercises.

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Instructor:

☐ Detail how each machine in your facility works. Follow the suggestions below and make out a sheet of instructions for the technician.

☐ Include in these instructions:

- function of the equipment. What is the machine used for and when is it used?
- preparation of the equipment for use. Examine the equipment; inspect the area around the equipment for loose tools and the like; put on any special dress necessary, like gloves, apron, boots.
- activating the equipment. Describe the steps necessary to start the machine.
- running the equipment. Describe what adjustments have to be made while the machine is in use, such as changing parts, adjusting valves, checking dials or gauges. What safety precautions have to be followed while any of this is being done?
- shutdown procedure. Describe how to turn the machine off. Check the machine and the area around it for loose tools, etc. Prepare equipment for the next use.
- preventive maintenance. How often is the machine serviced or inspected when it is not being used? What is checked (loose parts, leaks, rust, oiling, safety devices)?
- safety procedures. What special procedures must be followed for this particular machine?

☐ Create a set of detailed instructions for each of the above, emphasizing safety precautions.

☐ The VACUUM SWEEPER is very powerful.

☐ It is used to pick up SPILLED FEED or BEDDING or LOOSE HAIRS.

☐ It is also handy to CLEAN out hair and dust from AIR VENTS.

☐ WET-AND-DRY VACUUM CLEANERS can be used to sweep up WATER and SOAP from the FLOORS, as well as ordinary cleaning.

☐ The FLOOR SCRUBBER simply needs guiding. Its large ROTARY BRUSH does the work.

☐ The PORTABLE WATER GUN sprays HOT WATER and DISINFECTANT.

☐ It gets into CORNERS and can be used on the WALLS and for some kinds of CAGES, PENS, and large EQUIPMENT.

Instructor:

For which machines in your facility should you fill out forms that detail how to operate the machinery?

☐ CAGES, BOTTLES, and RACKS are cleaned in the WASH ROOM.

☐ SMALL ANIMAL CAGES go through the TUNNEL WASHER on a conveyor BELT.

☐ When they come out ot the machine, they have been WASHED, RINSED, and DRIED.

☐ LARGE CAGES and RACKS are cleaned in a CAGE WASHER.

☐ The washer is BIG enough for a person to walk into.

☐ WATER BOTTLES are fed into a BOTTLE WASHER.

☐ SPOUTS and STOPPERS are cleaned separately in a STEAM KETTLE.

☐ All these machines SANITIZE things; they kill most of the germs but they do NOT sterilize.

☐ The AUTOCLAVE is used to STERILIZE bedding, equipment, clothing, carcasses, feed, or surgical tools.

☐ It has a DOOR that SEALS in the STEAM.

☐ GERMS are KILLED in the STEAM. Nothing is left alive.

☐ This STERILE condition, with nothing living, means that the thing sterilized has NO GERMS at all.

☐ FEED, BEDDING, and CAGES used in germ-free areas are AUTOCLAVED.

☐ They go from the AUTOCLAVE to a STERILE (germ-free) ISOLATOR.

☐ PEOPLE working in sterile areas, such as surgeries, SCRUB DOWN and wear SPECIAL CLOTHING.

In addition:

☐ NO ONE should even begin to operate equipment until he has completely shown that he knows about safety factors.

☐ This is for the technician's own protection; such knowledge reduces the number of accidents on the job.

☐ Proper handling and maintenance also give the equipment a longer life.

☐ The TATTOOING MACHINE is used to put IDENTIFYING NUMBERS on animals.

☐ A tattooed number WILL NOT WASH OFF.

☐ Tattooing is used mostly for MONKEYS.

☐ The FOGGING MACHINE sprays POISON that kills INSECTS, or GERMS. Since it can affect the animals, it is used ONLY when the animals are out of the room and only with the PERMISSION of the INVESTIGATOR.

☐ The EUTHANASIA CHAMBER is used to KILL animals painlessly.

☐ They are given GAS and go to sleep.

☐ The INCINERATOR is used to get rid of soiled BEDDING, spoiled or spilled FEED, even dead ANIMALS.

In addition:

Weighing SCALES are used for animals or feed.

The Animal Technician must be sure animals are dead before incinerating them. How to determine whether an animal is dead is discussed in Lesson 17.

MACHINE	FUNCTION
Rack and cage washer	Sanitize[*] cages and racks
Rotary cage washer and/or tunnel washer	Sanitize[*] small animal cages
Water-bottle washer	Sanitize[*] animal water bottles
Steam kettle	Sanitize[*] water bottle spouts and stoppers
Portable water gun	Sanitize[*] large cages, pens, large pieces of equipment, and floors, walls and ceiling
High-pressure water gun	Same as portable water gun
Wet/dry vacuum	Clean hair, dirt and water from floors, racks, cages, shelves, and ventilation ducts
Dry vacuum	Same as above, except that it does not pick up water
Autoclave	Sterilize[†] bedding, equipment, clothing, carcasses, feed, or surgical tools
Floor-scrubbing machine	Scrub floors
Weighing scales	Weigh animal or feed
Tattooing machine	Identify animal
Incinerator	Dispose of carcasses and soiled bedding
Euthanasia chambers	Put animals to death
Fogging machine	Control vermin and disinfect areas

[*] Sanitize—make things free of gross contamination

[†] Sterilize—make things free from all life

PRACTICE EXERCISE

LESSON 16

INSTRUCTOR: AFTER THE STUDENTS HAVE VIEWED THE AUDIO-VISUAL DEMONSTRATION EXERCISE FOR LESSON 16, TAKE A COPY OF THE PRACTICE EXERCSIE TO THE ROOM(S) IN WHICH THE PRACTICE EXERCISE WILL BE HELD.

SHOW EACH STUDENT ALL THE DIFFERENT TYPES OF MACHINES MENTIONED IN THIS LESSON THAT ARE USED IN YOUR FACILITY. TELL HIM WHAT THE NAME OF EACH MACHINE IS AND WHAT IT'S USED FOR.

THEN GO OVER EITHER A SET OF INSTRUCTIONS THAT COMES WITH THE MACHINE, OR ONE THAT YOU HAVE PREPARED YOURSELF, EXPLAINING STEP BY STEP (AS OUTLINED IN THE TRAINING MANUAL) HOW TO USE THE MACHINE.

DEMONSTRATE THE USE OF EACH MACHINE TO EACH STUDENT, THEN WORK WITH EACH STUDENT AS HE PRACTICES USING IT HIMSELF.

AS SOON AS YOU FEEL THAT THE STUDENTS HAVE LEARNED THE NECESSARY SKILLS FOR THIS LESSON, YOU CAN GO ON TO THE MASTERY EXERCISE. UNTIL THAT TIME, CONTINUE ALLOWING THEM TO PRACTICE, HELPING THEM AS NEEDED.

MASTERY EXERCISE

LESSON 16

INSTRUCTOR: AFTER THE STUDENTS HAVE COMPLETED THE PRACTICE EXERCISE FOR LESSON 16, TAKE A COPY OF THE MASTERY EXERCISE AND GO TO THE ROOM(S) IN WHICH THE MASTERY EXERCISE WILL BE HELD.

SAY "WE ARE GOING INTO SOME DIFFERENT ROOMS WHERE THERE ARE A NUMBER OF MACHINES. PLEASE WAIT OUTSIDE UNTIL I CALL YOU IN, ONE AT A TIME. YOU'LL BE ASKED TO IDENTIFY SOME MACHINES, TO TELL ME WHAT THEY'RE USED FOR, AND TO SHOW HOW THEY ARE USED."

GO INTO THE FIRST ROOM WITH THE FIRST STUDENT. LEAVE THE OTHER STUDENTS OUTSIDE THE ROOM.

POINT TO ONE OF THE MACHINES AND ASK "WHAT'S THAT MACHINE AND WHAT'S IT USED FOR?"

IF THE STUDENT GIVES A WRONG ANSWER, DON'T SAY ANYTHING RIGHT AWAY. WAIT FOR A MINUTE TO GIVE HIM A CHANCE TO CHANGE HIS ANSWER.

IF THE STUDENT STILL DOESN'T KNOW THE RIGHT ANSWER, REPEAT THE PRACTICE EXERCISE WITH HIM. THEN COME BACK TO THE MASTERY EXERCISE, TO MAKE SURE THAT HE HAS MASTERY OF THE SKILL BEFORE YOU GO ON.

WHEN THE STUDENT GIVES A RIGHT ANSWER, SAY "GOOD" OR "RIGHT."

NOW GIVE THE STUDENT EITHER A SET OF INSTRUCTIONS WHICH COMES WITH THE MACHINE OR ONE YOU HAVE PREPARED YOURSELF AND SAY "FOLLOWING THE INSTRUCTIONS ON THIS SHEET, SHOW ME HOW TO USE THE MACHINE."

(ACT AS YOU DID EARLIER IF THE STUDENT DOES SOMETHING INCORRECTLY.)

IF AT ANY POINT IN THE ABOVE SEQUENCE THE STUDENT BEGINS TO OPERATE THE MACHINE IN A WAY THAT MAY BE DANGEROUS TO

THE STUDENT OR HARMFUL TO THE MACHINE, GENTLY STOP HIM. EXPLAIN WHAT MAY HAPPEN DOING IT THE WAY HE WAS, AND GO BACK TO THE PRACTICE EXERCISE.

IF HE STILL DOESN'T KNOW THE RIGHT ANSWER, REPEAT THE PRACTICE EXERCISE WITH HIM. THEN COME BACK TO THE MASTERY EXERCISE, TO MAKE SURE THAT HE HAS MASTERY OF THE SKILL BEFORE YOU GO ON.

WHEN THE STUDENT GIVES A RIGHT ANSWER, SAY "GOOD" OR "RIGHT."

REPEAT THESE PROCEDURES FOR ALL THE MACHINES IN THIS ROOM WITH THE STUDENT.

THEN REPEAT ALL THE PROCEDURES FOR THE DIFFERENT MACHINES IN THIS ROOM WITH EACH OF THE REMAINING STUDENTS.

REPEAT ALL THE ABOVE PROCEDURES WITH EACH STUDENT IN AS MANY ROOMS AS ARE NECESSARY TO COVER THE REMAINING TYPES OF MACHINES COVERED IN THIS LESSON.

AS EACH STUDENT FINISHES CORRECTLY, SIGN HIS LESSON CERTIFICATE.

Instructor:

Before meeting with Students, do the following (check when done):

☐ Review the Practice and Mastery Exercises at the end of this Lesson.

☐ Review the A-V Lesson.

☐ Make notes regarding any facility differences (procedures that differ from those shown in the A-V presentation). Space is provided on the left-hand pages of this manual.

☐ Prepare an area for the Practice and Mastery sessions.

Only after you have done all of the above:

☐ have the Student view the A-V as many times as he likes.

☐ Take the Student to the appropriate area so he can practice the skills described on the practice sheet.

☐ When you feel that the Student has mastered the material, take the Mastery Exercise sheet and follow directions exactly as written.

Lesson 17

RECOGNIZING AND REPORTING DISEASE IN LABORATORY ANIMALS

SCHEDULE CHART

☐ VIEW Audio-visual Demonstration Exercise, summarized on pages 17-1 through 17-14, in Room __________. View it as many times as you want.

☐ MEET ____________________ at __________ on __________
Instructor time date
in ________________________ for Practice and Mastery
room and bldg.
Exercises.

Instructor:

☐ How are signs of disease reported in your facility?

☐ The animal TECHNICIAN has a BETTER chance to know when an animal is sick because he is with the animals MORE THAN ANYONE else in his facility.

☐ The technician sees EACH animal at least once or twice every 24 hours.

☐ FIRST THING every morning, the technician checks EVERY animal in his area.

☐ He reports ANY SICK ONES to the VETERINARIAN.

☐ The following should be reported immediately to the supervisor or the veterinarian

- difficult breathing
- convulsions (fits)
- difficult birth
- infected or pulled stitches after an operation

In addition:

☐ WASH hands with SOAP before inspecting animals.

☐ For additional protection against disease, use disposable GLOVES. But remember, ordinary handling is best done with bare hands to help tame the animals.

☐ Look into EACH CAGE in the room and at EACH ANIMAL in the cage, even those hiding in the bedding.

☐ You may have to LIFT the cage LID or use a FLASHLIGHT.

☐ Remember to REPLACE cage lids SECURELY.

☐ In GANG CAGES, an animal may hide behind others or under a resting board. CHECK LATER to look at the ones who were hiding.

☐ Note ANY SIGNS that any animal is in DIFFICULTY or has CHANGED its HABITS.

☐ Difficulty in BREATHING can be HEARD, a wheezing sound.

☐ Or it can be SEEN: the animal may be breathing TOO FAST. Or TOO LOUD. Or hardly at all.

☐ If the situation is an EMERGENCY, the technician must GET THE VET immediately.

☐ If an animal is having great difficulty in breathing, or cannot stand, or is having convulsions, that is an emergency.

☐ If it is LESS SERIOUS, like a scratch or a limp, a HEALTH FORM is filled out and turned in

☐ COUGHING is a sign that something is wrong. REPORT IT.

☐ SNEEZING, especially among rabbits, is a sign of a cold or some other irritation. REPORT IT.

☐ VOMITING is a sign of sickness. REPORT IT.

☐ But if the animal is CHOKING OR VOMITING BLOOD, GET THE VET.

In addition:

If the animal is wearing a COLLAR, make sure it isn't TOO TIGHT. Your fingers should slip between the collar and the animal's skin.

An animal that is LIMPING or CANNOT STAND or is SHAKING (but not in fear) is in trouble.

It is hard to tell in GROUP CAGES if each animal is eating properly. CHECK BACK AT MEALTIME.

It is hard to tell about WATER where there is a PIPELINE SYSTEM. Check to see that the AUTOMATIC DEVICE is working.

If the animal is eating LESS than normally, report it.

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Instructor:

☐ In some facilities, the COI asks the veterinarians to notify him when animals have unusual diseases or injury signs. The COI or an instructor can then take Animal Technicians to the rooms to identify these animals and practice reporting the disease or injury sign. Is such a procedure possible, useful, or necessary in your facility?

☐ LISTLESS animals, not moving much, may be ILL. At least, something is wrong.

☐ They probably are NOT EATING or DRINKING much either.

☐ If an animal doesn't eat for a while, it becomes EMACIATED, very thin, its bones showing.

☐ A FURRY animal may NOT show emaciation. But how much it eats, or DOESN'T eat, is a sign.

In addition:

Loss of weight may NOT be apparent if you see the animal every day.

WEIGH the animal periodically and keep a RECORD of its weight.

Check a large animal's HINDQUARTERS if loss of weight is suspected. They should NOT be bony.

☐ A sick RAT'S hair coat will sometimes appear RUFFLED, when normally the coat is smooth.

☐ The ruffled or BRISTLY look is caused by the hair standing on end. GUINEA PIGS show the SAME signs, though the signs may be more difficult to spot than in the rat.

☐ LOSS OF HAIR is a sign of illness.

☐ An animal may lose hair ALL OVER or in PATCHES.

☐ Such hair loss is DIFFERENT FROM NORMAL SHEDDING, as in a cat or a long-haired dog.

☐ A DISCHARGE from the EYE (ocular discharge) is not normal.

☐ The running eye should be REPORTED before it get CRUSTED.

☐ If some of the discharge has a chance to DRY OUT and HARDEN, it must have been present for some time.

☐ A DISCHARGE from the NOSE (nasal discharge) is similar to one from the eye.

☐ It should be reported the FIRST TIME it is seen.

☐ DIRTY EARS may indicate something wrong, like ear mites.

☐ SWOLLEN FEET or TOES are not normal.

☐ Claws or nails that are TOO LONG may cause trouble.

☐ The TECHNICIAN who has had practice can CLIP long nails.

☐ But unless he is quite sure how to do the clipping, he should REPORT long nails on the HEALTH CARD.

☐ Dogs, rabbits, guinea pigs, all have nails that may grow too long.

☐ RABBITS' TEETH may get TOO LONG.

☐ If a rabbit isn't eating, that may be a sign of OVERGROWN TEETH. OPEN the rabbit's mouth and LOOK.

☐ If the BEDDING shows signs of BLEEDING, something is wrong with the animal or one of the animals in the cage.

☐ The bedding should be CHECKED for such signs REGULARLY.

☐ LOOSE FECES (diarrhea) is a sign of sickness.

☐ WHITE SPOTS in the feces may be a sign of internal PARASITES (worms).

☐ BLOOD in the FECES is a sign that something is wrong.

☐ BLOODY URINE too is a symptom of illness, even though most often it gets absorbed in the bedding.

In addition:

If bleeding appears on the BEDDING, try to find out WHICH ANIMAL is bleeding and THE PLACE it is bleeding from.

If feces or urine is ABSENT or in EXCESS, something probably is wrong.

☐ The laboratory TECHNICIAN has a BETTER chance to know when an animal is sick because he is with the animals MORE THAN ANYONE else in his facility.

☐ The technician sees EACH animal at least once or twice every 24 hours.

☐ FIRST THING every morning, the technician checks EVERY animal in his area.

☐ He reports ANY SICK ONES to the VETERINARIAN.

In addition:

WASH hands with SOAP before inspecting animals.

For additional protection against disease, use disposable GLOVES. But remember, ordinary handling is best done with bare hands to help tame the animals.

Look into EACH CAGE in the room and at EACH ANIMAL in the cage, even those hiding in the bedding.

You may have to LIFT the cage LID or use a FLASHLIGHT.

Remember to REPLACE cage lids SECURELY.

In GANG CAGES, an animal may hide behind others or under a resting board. CHECK LATER to look at the ones who were hiding.

☐ LUMPS or BUMPS on an animal should be REPORTED.

☐ The lump may be in an OBVIOUS place, like the foot, or someplace LESS EASY to see, like in the neck area or near the tail, or like a swollen abdomen.

☐ Cuts, sores, bruises, or changes like them in normal structures of the body are called LESIONS.

☐ Lesions can appear INSIDE or OUTSIDE the body.

☐ The technician is NOT concerned with discovering internal lesions like those on the liver.

☐ Lesions may be caused by DISEASE or by INJURY, as in fighting.

☐ A TILTED HEAD in an animal may indicate an EAR INFECTION.

☐ This symptom or sign may appear in ANY animal, large or small.

In addition:

In females, a STOCKY look (enlarged abdomen) or prominent TEATS may indicate PREGNANCY.

INCREASED APPETITE is also an indication of pregnancy.

Instructor:

How are dead animals reported in your facility?

☐ SIGNS of disease are reported on a HEALTH CHECK FORM.

☐ After entering information about the animal (taken from the cage card), CHECK OFF on the list those SYMPTOMS shown by the animal.

☐ If necessary, INDICATE where the trouble is by drawing lines to the proper part or area of the animal in the DRAWING.

☐ "Unusual movement" mentioned in the list of symptoms may mean LIMPING or WOBBLING.

☐ It may also mean lack of movement, caused for example by paralysis.

☐ ANYTHING unusual, even if it is expected as part of an experiment, MUST BE REPORTED.

In addition:

☐ In case of doubt, double check.

☐ Report any irregularity, anything out of the ordinary.

☐ If the technician suspects that an animal is DEAD, he should put on disposable GLOVES and surgical MASK before examining it.

☐ A dead animal

* does not breathe
* does not move
* has fixed (unblinking) eyes that remain open
* is stiff
* is cold (if dead for a few hours, as is usual when the death is discovered in the morning).

☐ An aborted fetus must be reported. Generally this is treated like a carcass.

☐ Signs of abortion are:

* blood or bloody mucus in cage
* blood or bloody mucus on animal's hindquarters

" presence of fetus in cage (a partially formed animal, sometimes in a membrane).

☐ A hamster may be HIBERNATING if the room is cold. Check its BREATHING and HEARTBEAT.

☐ Hibernation is unlikely, however. The room for hamsters should be kept at 70° F (21° - 24° C).

☐ The dead animal is placed in a plastic DEAD-ANIMAL BAG. The bag is then sealed.

☐ A LABEL is attached to the bag, filled out with information from the cage card.

☐ A MORTALITY CARD (different from the health check form) is filled out.

☐ The dead animal is NOT thrown out but put immediately in a special REFRIGERATOR used for this purpose.

☐ Use FORCEPS to handle small carcasses.

In addition:

Dead animal bags and tags should be found in the animal room. The reason for immediate refrigeration of the carcass is to prevent decomposition of the tissues. If decomposition gets too far, the veterinarian or investigator may find it difficult to determine the cause of death.
Some facilities use different colored tags for carcasses to be kept and those to be disposed of.
If your facility has 2 refrigerators for carcasses (one for preserving them, one for a holding refrigerator before disposal), the technician must be told this and know which to use.

☐ Reporting illness before it gets serious is known as PREVENTIVE MEDICINE.

☐ That is why the technician's responsibility for checking the animals is so great.

17-13

HEALTH CHECK FORM

Date ____________________ Investigator ____________________

Animal tech ____________________ Department ____________________

Room ____________ Bldg. ____________________

Species ____________________ Cage # ____________________

SIGN	DESCRIPTION
ABNORMAL ACTIVITY	
1. Unusual movement	
2. Slow or rapid breathing	
3. Vomiting	
4. Not eating	
5. Not drinking	
ABNORMAL APPEARANCE	
1. Weight loss	
2. Hair coat	
3. Wound or scratch	
4. Lumps or bumps	
5. Discharge	
6. Pregnant	
7. Teeth and nails	
8. Ears and tail	
9. External parasites	
CAGE CONDITION	
1. Blood	
2. Feces	
3. Urine	
4. Aborted fetus	

17-14

MORTALITY REPORT

DATE

INVESTIGATOR

ROOM

BLDG

DEPT

ANIMAL #

CARCASS STORAGE

ANIMAL TECH

FOR OFFICE USE:

VENDOR

INVESTIGATOR NOTIFIED

ARRIVAL DATE

ACTION

PRACTICE EXERCISE

LESSON 17

INSTRUCTOR: AFTER THE STUDENTS HAVE VIEWED THE AUDIO-VISUAL DEMONSTRATION EXERCISE FOR LESSON 17, TAKE A COPY OF THE PRACTICE EXERCISE TO THE ROOM(S) IN WHICH THE PRACTICE EXERCISE WILL BE HELD.

SHOW EACH OF THE STUDENTS ANY ANIMALS IN THE FACILITY THAT HAVE SIGNS OF DISEASE. DISCUSS OTHER SIGNS THAT THEY SHOULD LOOK FOR AND WHERE ON THE ANIMAL HE SHOULD LOOK FOR THESE SIGNS.

SHOW HOW TO REPORT AN ANIMAL THAT SHOWS A SIGN OF DISEASE, AND BE SURE TO TELL THE STUDENT WHO HE SHOULD GIVE THE REPORT TO.

DEMONSTRATE HOW TO TELL DEAD ANIMALS FROM ANESTHETIZED ANIMALS, AND HOW TO REMOVE AND STORE DEAD ANIMALS. DISCUSS WHY IT'S IMPORTANT TO STORE THEM CORRECTLY.

AS SOON AS YOU FEEL THAT THE STUDENTS HAVE LEARNED THE NECESSARY SKILLS FOR THIS LESSON, YOU CAN GO ON TO THE MASTERY EXERCISE. UNTIL THAT TIME, CONTINUE ALLOWING THEM TO PRACTICE, HELPING THEM AS NEEDED.

MASTERY EXERCISE

LESSON 17

INSTRUCTOR: AFTER THE STUDENTS HAVE COMPLETED THE PRACTICE EXERCISE FOR LESSON 17, TAKE A COPY OF THE MASTERY EXERCISE AND GO TO THE ROOM(S) IN WHICH THE MASTERY EXERCISE WILL BE HELD.

PREPARE FOR THIS EXERCISE BY HAVING AT LEAST TWO ANIMALS WITH SIGNS OF DISEASE IN DIFFERENT CAGES IN THE ROOM, ALONG WITH HEALTHY ANIMALS. ALSO A CAGE WITH AN ANESTHETIZED ANIMAL IN IT, AND A CAGE WITH A DEAD ANIMAL.

SAY "We're going into a room that has animals in it. Some of these animals may have signs of disease. Others may be dead. Please wait outside until I call you in, one at a time. When you come in, I'll ask you to pick out any animals that have signs of disease and report them. Same for dead animals."

GO INTO THE ROOM WITH THE FIRST STUDENT. LEAVE THE OTHER STUDENTS OUTSIDE THE ROOM.

SAY "Look around the room for any animals that show signs of being ill. Point to them."

IF THE STUDENT GIVES A WRONG ANSWER, DON'T SAY ANYTHING RIGHT AWAY. WAIT FOR A MINUTE TO GIVE HIM A CHANCE TO CHANGE HIS ANSWER.

IF HE STILL DOESN'T KNOW THE RIGHT ANSWER, REPEAT THE PRACTICE EXERCISE WITH HIM. THEN COME BACK TO THE MASTERY EXERCISE TO MAKE SURE THAT HE HAS MASTERY OF THE SKILL BEFORE YOU GO ON.

WHEN THE STUDENT GIVES A RIGHT ANSWER, SAY "Good" OR "Right."

NOW SAY "Show how you would report the animals that look sick."

(ACT AS YOU DID EARLIER IF THE STUDENT GIVES YOU A WRONG

ANSWER.)

NOW SAY "Find and report any dead animals in the room. For each one, tell me how you know it's dead and not just anesthetized."

(ACT AS YOU DID EARLIER IF THE STUDENT GIVES A WRONG ANSWER.)

SAY "Now take the dead animal from the cage and store it properly."

(ACT AS YOU DID EARLIER IF THE STUDENT DOES SOMETHING INCORRECTLY.)

REPEAT THE PROCEDURES FOR EACH OF THE REMAINING STUDENTS.

AS EACH STUDENT FINISHES CORRECTLY, SIGN HIS LESSON CERTIFICATE.

Instructor:

Before meeting with Students, do the following (check when done):

☐ Review the Practice and Mastery Exercises at the end of this Lesson.

☐ Review the A-V Lesson.

☐ Make notes regarding any facility differences (procedures that differ from those shown in the A-V presentation). Space is provided on the left-hand pages of this manual.

☐ Prepare an area for the Practice and Mastery sessions.

Only after you have done all of the above:

☐ Have the Student view the A-V as many times as he likes.

☐ Take the Student to the appropriate area so he can practice the skills described on the practice sheet.

☐ When you feel that the Student has mastered the material, take the Mastery Exercise sheet and follow directions exactly as written.

Lesson 18

INSPECTING THE ENVIRONMENT

SCHEDULE CHART

☐ VIEW Audio-visual Demonstration Exercise, summarized on pages 18-1 through 18-6, in Room __________. View it as many times as you want.

☐ MEET ____________________ (Instructor) at __________ (time) on __________ (date) in ____________________ (room and bldg.) for Practice and Mastery Exercises.

5

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Instructor:

☐ How are inventories recorded in your facility?

☐ There are USDA and NIH requirements for space. See Lesson 8 on caging.

☐ Overcrowding is against the law, illegal.

☐ More important, however, overcrowding can make the animals sick or ruin an experiment.

☐ Proper choice of bedding will minimize dust and eliminate unpleasant odors.

☐ EVERYTHING in the animal room, the ENVIRONMENT, in addition to the animals, must be INSPECTED REGULARLY.

☐ FIRST THING every day, COUNT the animals; take an inventory.

☐ Fill out the INVENTORY FORM, which will be like the one shown at the end of this lesson, writing down the number of animals.

☐ The BUSINESS OFFICE needs this information in order to tell how many animals to charge the INVESTIGATOR for.

☐ After the inventory, check the animals' SURROUNDINGS:

- the macro-environment, the WHOLE ROOM, the larger environment
- the micro-environment, the CAGE, or PEN, the immediate or smaller environment

In addition:

The needs and comfort of the ANIMALS determine how conditions in the room or the cage are to be regulated.

A chart of temperature and humidity requirements for different laboratory animals appears at the end of the lesson.

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☐ When examining the CAGE, check

- if there is blood or diarrhea in the BEDDING
- if the right kind of CAGE is being used for the animal
- if the right kind of BEDDING is being used
- if the WATER BOTTLE is working

☐ If the bedding is piled up around the sipper tube, water may leak from the bottle.

☐ If the bottle LEAKS, it could DROWN small animals.

☐ Check the RACK. It may be bent or damaged.

☐ Be sure the rack rolls easily.

Instructor:

☐ How does the Technician get a leaky faucet or anything else in poor operating condition repaired?

☐ How are correct room temperatures determined in your facility?

☐ How do you post the ranges of temperature and humidity in your facility?

If there is an automatic 24-hour temperature recorder in your facility, the technician should be shown how to reload it.

☐ Check the ROOM.

☐ Look for CRACKS in the walls or the floor.

☐ Inspect the DRAINS to make sure they are not clogged.

☐ Check CABINETS and CUPBOARDS for VERMIN.

☐ Look for vermin in the FEED CAN. Dark places like the inside of the can are preferred by insects such as the cockroach.

☐ Use INSTRUMENTS to help you inspect. Examine

* the THERMOMETER. The temperature must be well controlled. If it is not in the proper posted range, report it to the supervisor.
* the HUMIDITY GAUGE. The moisture in the air must be controlled. If it is higher or lower than it should be, report it to the supervisor.

In addition:

The temperature should not vary 2 or 3 degrees from what is posted.

Wide or sudden changes of temperature may affect the animals and make them ill, injuring the results of an experiment.

If humidity is too high, it may affect the animals' ability to give off body heat. They may become overheated and ill. If it is too low, they may also become sick.

As with temperature, humidity changes may affect the results of an experiment.

Cover drains if they are not being used. If the water in the drain should evaporate, sewer gas could get into the room.

Check windows for broken panes or jamming.

Check door locks and knobs.

☐ The AIR gets in and out of the room through air VENTS.

☐ An air vent may become CLOGGED with animal HAIR, interfering with the movement of the air and keeping ODORS within the room from moving out.

☐ VACUUM off the hair.

☐ Animal rooms have certain SMELLS, from

- bedding
- feed
- animal wastes

☐ Air CIRCULATION keeps these odors from getting STALE and SMELLING BAD.

☐ ANYTHING wrong should be REPORTED, on an environment report like the one at the end of the lesson, to the SUPERVISOR.

In addition:

Air that doesn't circulate will permit some IRRITANTS, like the ammonia of urine, to build up and CAUSE ILLNESS in the animals.

Opening a door DOESN'T solve the problem; it may cause a draft that will make animals ill.

DO NOT prop open the room's door or windows.

Check air FILTERS in the air INTAKES to make sure they permit flow of air into the room.

LIGHTING is usually automatically controlled. These controls should be checked.

NOISE should be kept to a minimum: no bells, hammering, or banging things about. NO RADIOS.

Instructor:

☐ If there is an automatic 24-hour temperature recorder, the technician may have to reload the machine.

☐ The technician may, in your facility, replace blown-out lights or may call for a custodian to do the job.

☐ Summary:

- * Inventory the animals
- * Check the cages
- * Check the room
  - . Dark places for vermin or wild rodents
  - . Temperature
  - . Humidity
  - . Air vents
  - . Lighting

☐ Any change in conditions could ruin an experiment.

☐ TAKE NO CHANCES; report irregularities.

3

ENVIRONMENTAL REQUIREMENTS FOR LABORATORY ANIMALS

SPECIES	TEMPERATURE (In Degrees F.)	HUMIDITY (In Percentage)
MOUSE	70-74	50-60
RAT	70-74	50-60
HAMSTER	70-74	50-60
GUINEA PIG	68-70	50-60
RABBIT	65-70	45-55
CAT	70-74	45-50
DOG	70-74	45-50
SWINE (PIG)	70-75	45-50
SHEEP	70-75	45-50
GOAT	70-75	45-50
PRIMATES		50-60
rhesus	70-78	
African	78-85	
POULTRY		70
young	80	
older	70	

Sources: AALAS (1967), Arrington (1972), D'Ver, Hauser and Armstrong (1971), Short and Woodnott (1969).

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INVENTORY OF ANIMALS

Room___ _ Bldg_________________ Investigator ________________________

Date___________________________ Department__________________________

Animal Tech______________________

Day	Species	Number of Animals	Number Added	Number Found Dead	Number Sacrificed	Number Transferred	Daily Total
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							

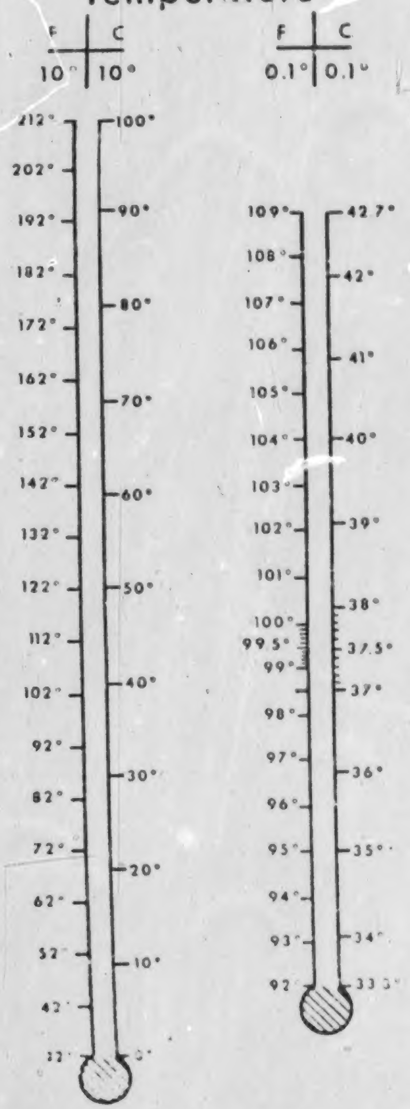
Sample Inventory Form

ENVIRONMENT REPORT

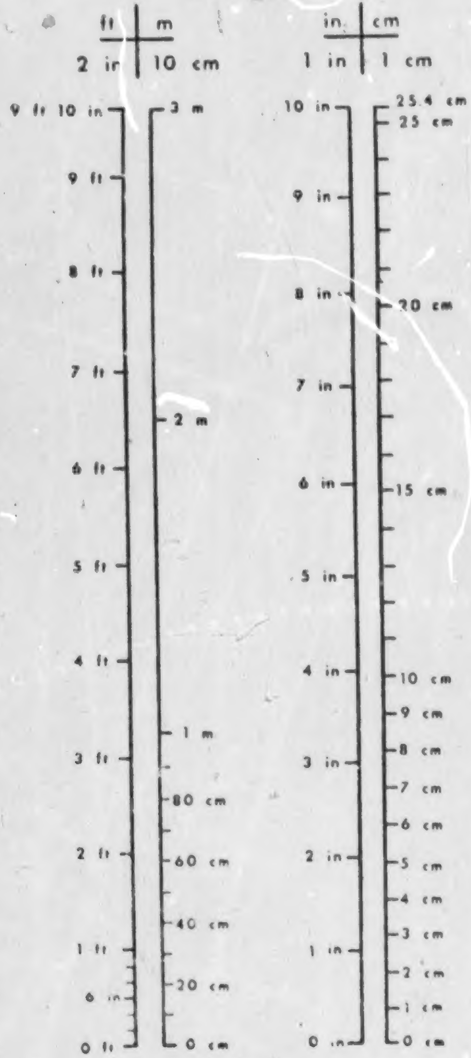
Technician's name ____________________ Date ____________________

[illegible] INSPECTED	LIGHTS	TEMPERATURE (Max.-Min.)	HUMIDITY	VENTI-LATION	DRAINS, FAUCETS	WALLS, FLOORS, CEILINGS	DOORS, WINDOWS	CAGE AND ACCESSORIES	VERMIN

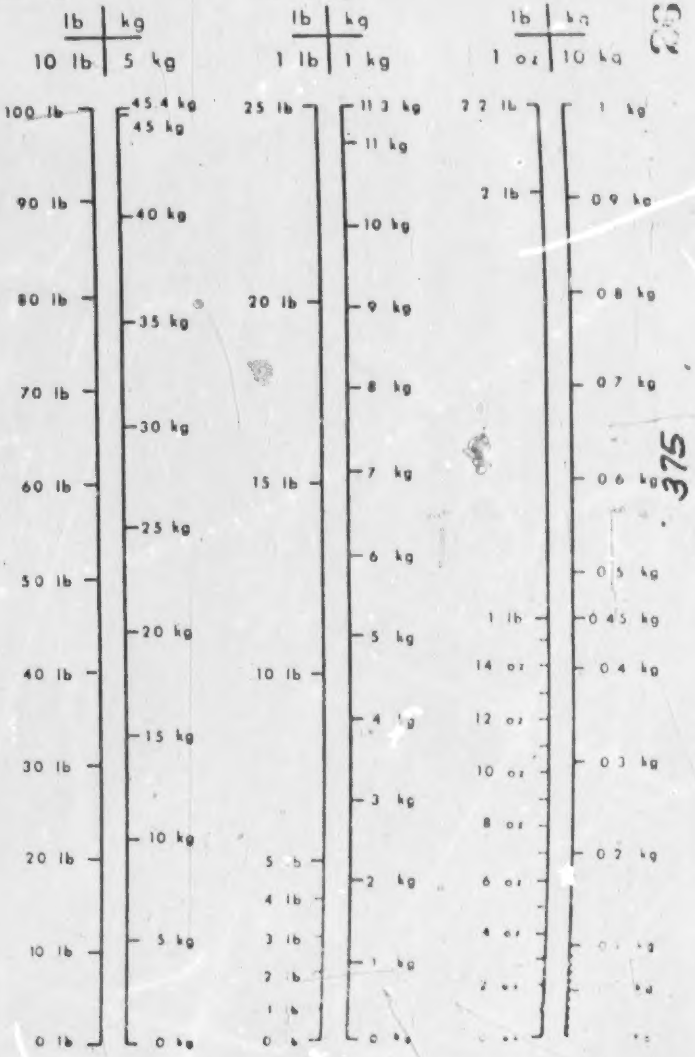
Temperature


F | C
10° | 10°
212°
202°
192°
182°
172°
162°
152°
142°
132°
122°
112°
102°
92°
82°
72°
62°
52°
42°
32°
100°
90°
80°
70°
60°
50°
40°
30°
20°
10°
0°
F | C
0.1° | 0.1°
109°
108°
107°
106°
105°
104°
103°
102°
101°
100°
99.5°
99°
98°
97°
96°
95°
94°
93°
92°
42.7°
42°
41°
40°
39°
38°
37.5°
37°
36°
35°
34°
33.3°

Length


ft | m
2 in | 10 cm
9 ft 10 in
9 ft
8 ft
7 ft
6 ft
5 ft
4 ft
3 ft
2 ft
1 ft
6 in
0 ft
3 m
2 m
1 m
80 cm
60 cm
40 cm
20 cm
0 cm
in | cm
1 in | 1 cm
10 in
9 in
8 in
7 in
6 in
5 in
4 in
3 in
2 in
1 in
0 in
25.4 cm
25 cm
20 cm
15 cm
10 cm
9 cm
8 cm
7 cm
6 cm
5 cm
4 cm
3 cm
2 cm
1 cm
0 cm

Weight


lb | kg
10 lb | 5 kg
100 lb
90 lb
80 lb
70 lb
60 lb
50 lb
40 lb
30 lb
20 lb
10 lb
0 lb
45.4 kg
45 kg
40 kg
35 kg
30 kg
25 kg
20 kg
15 kg
10 kg
5 kg
0 kg
lb | kg
1 lb | 1 kg
25 lb
20 lb
15 lb
10 lb
5 lb
4 lb
3 lb
2 lb
1 lb
0 lb
11.3 kg
11 kg
10 kg
9 kg
8 kg
7 kg
6 kg
5 kg
4 kg
3 kg
2 kg
1 kg
0 kg
lb | kg
1 oz | 10 kg
2.2 lb
2 lb
1 lb
14 oz
12 oz
10 oz
8 oz
6 oz
4 oz
2 oz
1 kg
0.9 kg
0.8 kg
0.7 kg
0.6 kg
0.5 kg
0.45 kg
0.4 kg
0.3 kg
0.2 kg

ENVIRONMENTAL REQUIREMENTS FOR LABORATORY ANIMALS

SPECIES	TEMPERATURE	HUMIDITY (%)
Mouse	70-74°F (21-24°C)	50-60
Rat	70-74°F (21-24°C)	50-60
Hamster	70-74°F (21-24°C)	50-60
Guinea pig	68-70°F (20-21°C)	50-60
Rabbit	65-70°F (18-21°C)	45-55
Cat	70-74°F (21-24°C)	45-50
Dog	70-74°F (21-24°C)	45-50
Swine (Pig)	70-75°F (21-24°C)	45-50
Sheep	70-75°F (21-24°C)	45-50
Goat	70-75°F (21-24°C)	45-50
Primates		
Rhesus	70-78°F (21-26°C)	50-60
African	78-85°F (26-29°C)	
Poultry		
young	80°F (27°C)	70
older	70°F (21°C)	

Sources: AALAS (1967), Arrington (1972), D'Ver, Hauser and Armstrong (1971), Short and Woodnott (1969).

PRACTICE EXERCISE

LESSON 18

INSTRUCTOR: AFTER THE STUDENTS HAVE VIEWED THE AUDIO-VISUAL DEMONSTRATION EXERCISE FOR LESSON 18, TAKE A COPY OF THE PRACTICE EXERCISE TO THE ROOM(S) IN WHICH THE PRACTICE EXERCISE WILL BE HELD.

SHOW EACH STUDENT THE INSTRUMENTS FOR READING TEMPERATURE AND HUMIDITY AND HOW TO READ THEM. POSTED BESIDE EACH SHOULD BE THE ACCEPTABLE RANGE FOR THIS ROOM. DEMONSTRATE HOW TO REPORT WHEN EITHER THE TEMPERATURE OR THE HUMIDITY IS NOT WITHIN NORMAL LIMITS.

SHOW EACH STUDENT THE TIMING DEVICE FOR THE LIGHTS. DEMONSTRATE HOW TO SET AND RESET THE DEVICE, AND HOW TO REPORT IT WHEN IT IS INCORRECTLY SET.

USING THE ENVIRONMENT INSPECTION FORM, WALK THROUGH A FEW ROOMS SHOWING THE STUDENTS THE KINDS OF ENVIRONMENTAL PROBLEMS TO LOOK FOR, AND HOW TO REPORT THEM.

AS SOON AS YOU FEEL THAT THE STUDENTS HAVE LEARNED THE NECESSARY SKILLS FOR THIS LESSON, YOU CAN GO ON TO THE MASTERY EXERCISE. UNTIL THAT TIME, CONTINUE ALLOWING THEM TO PRACTICE, HELPING THEM AS NEEDED.

MASTERY EXERCISE

LESSON 18

INSTRUCTOR: AFTER THE STUDENTS HAVE COMPLETED THE PRACTICE EXERCISE FOR LESSON 18, TAKE A COPY OF THE MASTERY EXERCISE AND GO TO THE ROOM(S) IN WHICH THE MASTERY EXERCISE WILL BE HELD.

SAY "WE'RE GOING INTO AN ANIMAL ROOM (OR ROOMS) TO MAKE AN ENVIRONMENT CHECK - TO SEE IF EVERYTHING IS WORKING PROPERLY AND IN GOOD SHAPE. PLEASE WAIT OUTSIDE UNTIL I CALL YOU IN, ONE AT A TIME. WHEN YOU COME IN, I'LL ASK YOU TO CHECK OUT THE ROOM AND REPORT ANYTHING THAT SHOULD BE REPORTED."

GO INTO THE ROOM WITH THE FIRST STUDENT. LEAVE THE REMAINING STUDENTS OUTSIDE THE ROOM.

ASK "ARE THE TEMPERATURE AND HUMIDITY IN THIS ROOM WITHIN THE NORMAL LIMITS?"

IF THE STUDENT GIVES A WRONG ANSWER, DON'T SAY ANYTHING RIGHT AWAY. WAIT FOR A MINUTE TO GIVE HIM A CHANCE TO CHANGE HIS ANSWER.

IF HE STILL DOESN'T KNOW THE RIGHT ANSWER, REPEAT THE PRACTICE EXERCISE WITH HIM. THEN COME BACK TO THE MASTERY EXERCISE, TO MAKE SURE THAT HE HAS MASTERY OF THE SKILL BEFORE YOU GO ON.

WHEN THE STUDENT GIVES A RIGHT ANSWER, SAY "GOOD" OR "RIGHT."

SAY "SHOW ME HOW TO REPORT WHEN THE TEMPERATURE OR HUMIDITY ISN'T RIGHT."

(ACT AS YOU DID EARLIER IF THE STUDENT GIVES A WRONG ANSWER.)

ASK "ARE THE AUTOMATIC TIMING DEVICES FOR THE LIGHTS SET CORRECTLY? IF THEY AREN'T RIGHT, SHOW ME HOW YOU WOULD REPORT IT."

(ACT AS YOU DID EARLIER IF THE STUDENT GIVES A WRONG ANSWER.)

SAY "CHECK OUT THE CONDITION OF THIS ROOM. REPORT ANY PROB-

LEMS."

AS THE STUDENT IS INSPECTING THE ROOM, SET THE TIMING DEVICE FOR THE LIGHTS INCORRECTLY. WHEN HE HAS FINISHED CHECKING OUT THE ROOM, ASK HIM TO RESET THE TIMER CORRECTLY.

(ACT AS YOU DID EARLIER IF THE STUDENT DOES SOMETHING INCORRECTLY.)

THEN CHECK THE STUDENT'S ENVIRONMENT REPORT AGAINST THE CONDITIONS OF THE ROOM TO SEE HOW THEY COMPARE.

(ACT AS YOU DID EARLIER IF THE STUDENT HAS ANY INCORRECT ANSWERS.)

NOW SAY "GO THROUGH THE ROOMS ON THIS FLOOR IN THE NEXT FIFTEEN (OR THIRTY) MINUTES, NOTING THINGS THAT NEED TO BE CHANGED, REPAIRED, OR LOOKED INTO. REPORT THEM TO ME IN MY OFFICE (OR WHEREVER YOU WILL BE) WHEN YOU HAVE FINISHED."

WHEN THE STUDENT HAS FINISHED, COMPARE HIS REPORT TO ONE YOU HAVE PREVIOUSLY MADE UP. GO WITH HIM TO INSPECT ANY AREAS OF DISAGREEMENT BETWEEN HIS LIST AND YOURS. DISCUSS MINOR DIFFERENCES UNTIL YOU FEEL THE STUDENT UNDERSTANDS. IN THE EVENT OF MAJOR DIFFERENCES, GO BACK TO THE PRACTICE EXERCISE.

REPEAT THE EXERCISE FOR EACH OF THE REMAINING TECHNICIANS.

AS EACH TECHNICIAN FINISHES CORRECTLY, SIGN HIS LESSON CERTIFICATE.

Instructor:

Before meeting with Students, do the following (check when done):

- ☐ Review the Practice and Mastery Exercises at the end of this Lesson.
- ☐ Review the A-V Lesson.
- ☐ Make notes regarding any facility differences (procedures that differ from those shown in the A-V presentation). Space is provided on the left-hand pages of this manual.
- ☐ Prepare an area for the Practice and Mastery sessions.

Only after you have done all of the above:

- ☐ Have the Student view the A-V as many times as he likes.
- ☐ Take the Student to the appropriate area so he can practice the skills described on the practice sheet.
- ☐ When you feel that the Student has mastered the material, take the Mastery Exercise sheet and follow directions exactly as written.

Lesson 19

CLEAN, FEED, AND WATER
ANIMALS IN DIRECT BEDDING CAGES

SCHEDULE CHART

☐ VIEW Audio-visual Demonstration Exercise, summarized on pages 19-1 through 19-7, in Room __________. View it as many times as you want.

☐ MEET ____________________ at __________ on __________
Instructor time date

in ________________________ for Practice and Mastery Exercises.
room and bldg.

Instructor:

☐ In your facility, how does the animal technician determine when a room is to be cleaned?

☐ HOUSEKEEPING ROUTINE is very important because

- * Unsanitary conditions may upset the results of an experiment, make animals ill, or let germs spread
- * Such conditions attract wild rodents and insects
- * Smells would become very bad and irritating without regular cleaning

☐ REGULAR CLEANING is set up on DAILY and WEEKLY schedules.

☐ The supervisor will tell the technician what the SCHEDULE is and see to it that the schedule is POSTED.

☐ DIFFERENT DUTIES have DIFFERENT SCHEDULES.

☐ FEEDING and WATERING is done EVERY DAY.

☐ To clean small animals in direct bedding SWITCH them into clean CAGES and remove the dirty cages to the cage washing room.

☐ WALLS and FLOORS are cleaned according to set schedules.

☐ Such schedules are regulated by FEDERAL LAW.

☐ These are just a **FEW** of the important things to know about cleaning, feeding, and watering the animals and rooms UNDER YOUR CARE.

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Instructor:

☐ How are direct bedding cages cleaned in your facility?

☐ In doing a room BEGIN by WASHING your hands with soap and hot water to get rid of germs you would carry into the animal room.

☐ Put on PROTECTIVE CLOTHING if you're going into a QUARANTINE area.

☐ If you go into the MONKEY area, LOCK THE DOORS when you're inside.

☐ CHECK the room for

  - feed
  - cleaning supplies (soap, paper towels, etc.)

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Instructor:

☐ The instructions here are keyed to direct bedding cages and the rooms in which they are kept. How does your facility handle other types of cages?

FEED and WATER the animals in DIRECT BEDDING cages.

1. COUNT the cages (and racks, if they are to be changed)
2. Go to the cage washing room or central storage for CLEAN CAGES and WATER BOTTLES (unless there is a pepeline waterer).
3. RETURN with the clean cages and bottles by a route that will NOT contaminate them, like "clean" hallways (where contaminated things are never taken).
4. If necessary, put BEDDING in the cages, before you get to the animal room. Use only enough bedding to cover the cage floor, never enough for the animals to pile up.
5. MOVE the CAGE CARD from the dirty to the clean cage. Do this one cage at a time so the cards don't get mixed up.

In addition:

Check the feed level EVERY DAY.

Make sure the animals can GET TO the feed.

Check water bottles DAILY. They should never be LESS THAN HALF FULL.

Racks should be changed once a week or every 2 weeks. This schedule should be posted.

Rabbit racks may need frequent changing because of the large amount of hair.

6. PUT the ANIMAL or animals in the clean CAGE, put a clean LID on it or slide it into the guides on the RACK, then do the next cage - card, animals, lid - and so on.
7. Put each CLEAN CAGE in the RACK or SHELVES as you finish.
8. Fill all the cage FEEDERS 2/3 full with a SCOOP.

   DON'T use your hands.

   DON'T use your hands.

   DON'T pick up spilled feed; sweep it out later.

   Add SUPPLEMENTS as directed.
9. If the clean water bottles are not already filled, FILL them in the animal room at the SINK.

   Fill to about 1 inch from the TOP. The animal CANNOT get water from a completely filled bottle.

   Fit the STOPPER and SPOUT into the bottle. TWIST on tightly.

   Turn the bottle UPSIDE DOWN and SHAKE it over the sink a few times to test that it is tight.

   Put the bottle on the CAGE so the spout goes INTO the cage.

   Always put the bottle back on the SAME CAGE from which it came.

In addition:

One way of watering: Count the bottles in a room. Get that number of clean bottles from the central washing room. Fill them and asd stoppers and sipper tubes. Check each bottle for leakage. Then take them all to the animal room. Replace the old bottles with the new ones one after the other. Return the dirty bottles to the washing room.

If there is an AUTOMATIC (pipeline) WATERER, check the pressure GAUGE to make sure it is correct for the system. Check the hose connection to the rack or cage for leaks. Report any leak to the supervisor.

Check the cage valve when the cage is cleaned.

Take the dirty cages to the wash room (using the "dirty" hallway) or put them outside the room to be picked up.

In addition:

Cages are cleaned first, then rooms, since debris and dirt from the cages may fall to the floor and have to be swept out.

☐ To CLEAN the ROOM, you need

* a mop
* a broom
* a counter brush
* a sponge
* a dust pan
* a bucket
* cleaning solution (disinfectant)
* a vacuum cleaner (perhaps)

☐ These are usually kept in the ANIMAL ROOM.

☐ Start cleaning AT THE TOP.

. Check the AIR DUCTS, especially in the rabbit rooms where they get clogged with hair.

. The ducts can be cleaned with a wet SPONGE or a VACUUM.

. If the filter is CLOGGED, it may be best to CHANGE IT.

☐ Mix a DISINFECTANT SOLUTION, by adding a container or measured amount of disinfectant to a bucket of water which has been filled to a marked line.

☐ Then clean the WALLS.

☐ Vacuum them or, better still, use a SPONGE dipped in the disinfectant solution.

If no animals are in the room, you might HOSE the walls down.

The animals must NEVER get wet.

☐ DISCARD the disinfectant solution that is left, OR SAVE IT to be used on the sink and counter later.

☐ Mix ANOTHER BATCH of disinfectant solution.

☐ Then VACUUM the floor or SWEEP up all the dirt and debris.

☐ If you sweep, use the COUNTER BRUSH and DUST PAN to pick up the dirt and put it in the room's TRASH CAN.

☐ Use a SQUEEGEE or MOP AND BUCKET to clean the floor with the disinfectant SOLUTION.

☐ MOP the floor with the solution; SCRUB well.

☐ Then RINSE the squeegee, mop, broom, and dust pan in HOT WATER in the sink.

☐ DISCARD the disinfectant solution that is left.

☐ DO NOT use the floor solution for walls, sink, or counter.

☐ Mix ANOTHER BATCH of solution or use what is left over from cleaning the walls.

☐ This is to be used on the SINK and COUNTER.

☐ SPONGE the COUNTERS and SINK with the fresh solution.

☐ POUR whatever disinfectant solution remains down the FLOOR DRAIN.

☐ PUT AWAY the mop, broom, and other equipment.

☐ WASH your HANDS with soap and water.

☐ Take out and empty the TRASH CAN.

☐ Make sure the can is DISINFECTED and washed in the wash room before it is brought back into the room.

☐ Trash cans should be done EVERY DAY.

☐ CARRY trash cans on a DOLLY.

☐ This system of cleaning is used for EVERY ROOM.

☐ LOOK AROUND the room before you leave to see that all is clean and neat and that NOTHING has been skipped.

PRACTICE EXERCISE

LESSON 19

INSTRUCTOR: AFTER THE STUDENTS HAVE VIEWED THE AUDIO-VISUAL DEMONSTRATION EXERCISE FOR LESSON 19, TAKE A COPY OF THE PRACTICE EXERCISE TO THE ROOM(S) IN WHICH THE PRACTICE EXERCISE WILL BE HELD.

DISCUSS WITH EACH STUDENT HOW TO TELL WHICH ROOMS ARE TO BE CLEANED ON WHICH DAYS IN YOUR FACILITY.

SHOW EACH STUDENT HOW TO CLEAN, FEED, AND WATER ANIMALS IN A SHOEBOX CAGE.

SHOW EACH STUDENT HOW HE IS TO RECEIVE INSTRUCTIONS IN YOUR FACILITY TO PROVIDE A SPECIAL DIET TO THE ANIMALS IN A SHOEBOX CAGE. THEN SHOW THE PROCEDURE FOR GIVING THIS SPECIAL DIET.

DISCUSS AND DEMONSTRATE ALL THE STEPS OF CLEANING THE ROOM, INCLUDING THE FLOORS, WALLS, VENTS, SINKS, AND SO ON.

AS SOON AS YOU FEEL THAT THE STUDENTS HAVE LEARNED THE NECESSARY SKILLS FOR THIS LESSON, YOU CAN GO ON TO THE MASTERY EXERCISE. UNTIL THAT TIME, CONTINUE ALLOWING THEM TO PRACTICE, HELPING THEM AS NEEDED.

MASTERY EXERCISE

LESSON 19

INSTRUCTOR: AFTER THE STUDENTS HAVE COMPLETED THE PRACTICE EXERCISE FOR LESSON 19, TAKE A COPY OF THE MASTERY EXERCISE AND GO TO THE ROOM(S) IN WHICH THE MASTERY EXERCISE WILL BE HELD.

SAY "WE'RE GOING TO CHECK OUT HOUSEKEEPING PROCEDURES IN DIFFERENT ROOMS. I'LL ASK YOU TO CLEAN, FEED AND WATER ONE OF THE CAGES OF ANIMALS AND TO CLEAN AN ANIMAL ROOM. PLEASE WAIT OUTSIDE UNTIL I CALL FOR YOU, ONE AT A TIME."

SAY "ACCORDING TO OUR SCHEDULE, WHICH ROOMS ARE TO BE CLEANED TODAY?".

SELECT ONE OF THE ROOMS WITH DIRECT BEDDING CAGES AND GO THERE.

GO INTO THE ROOM WITH THE FIRST STUDENT. LEAVE THE REMAINING STUDENTS OUTSIDE THE ROOM.

POINT TO ONE OF THE DIRECT BEDDING CAGES AND SAY "PLEASE CLEAN THAT CAGE, AND FEED AND WATER THE ANIMALS."

IF THE STUDENT DOES SOMETHING THAT IS WRONG, DON'T SAY ANYTHING RIGHT AWAY. WAIT FOR A MINUTE TO GIVE HIM A CHANCE TO CHANGE HIS ANSWER.

IF HE STILL DOESN'T KNOW THE RIGHT ANSWER, REPEAT THE PRACTICE EXERCISE WITH HIM. THEN COME BACK TO THE MASTERY EXERCISE, TO MAKE SURE THAT HE HAS MASTERY OF THE SKILL BEFORE YOU GO ON.

WHEN THE STUDENT GIVES A RIGHT ANSWER SAY "GOOD" OR "RIGHT."

GIVE THE STUDENT INSTRUCTIONS ABOUT PROVIDING A SPECIAL DIET TO THE ANIMALS IN ONE OF THE SHOEBOX CAGES.

(ACT AS YOU DID EARLIER IF THE STUDENT DOES SOMETHING THAT IS WRONG.)

SAY "NOW, CLEAN THIS ROOM FROM TOP TO BOTTOM. I'LL BE

BACK IN A LITTLE WHILE TO SEE HOW YOU'VE DONE."

GO WITH THE SECOND STUDENT INTO ANOTHER ROOM WITH DIRECT BEDDING CAGES AND REPEAT THE ABOVE PROCEDURES. BY THE TIME YOU HAVE ASKED HIM TO CLEAN THE ROOM, YOU SHOULD BE ABLE TO GO BACK AND FINISH WITH THE FIRST STUDENT.

CHECK OUT THE ROOM CLEANED BY THE FIRST STUDENT. ASK "TELL ME ALL THINGS YOU DID IN HERE."

(ACT AS YOU DID EARLIER IF THE STUDENT HAS DONE SOMETHING WRONG OR SKIPPED A STEP.)

REPEAT THE ABOVE STEP WITH THE SECOND STUDENT.

THEN REPEAT THE EXERCISE FOR EACH OF THE REMAINING STUDENTS.

AS EACH STUDENT FINISHES CORRECTLY, SIGN HIS LESSON CERTIFICATE.

Instructor:

Before meeting with Students, do the following (check when done):

- ☐ Review the Practice and Mastery Exercises at the end of this Lesson.
- ☐ Review the A-V Lesson.
- ☐ Make notes regarding any facility differences (procedures that differ from those shown in the A-V presentation). Space is provided on the left-hand pages of this manual.
- ☐ Prepare an area for the Practice and Mastery sessions.

Only _after_ you have done all of the above:

- ☐ Have the Student view the A-V as many times as he likes.
- ☐ Take the Student to the appropriate area so he can practice the skills described on the practice sheet.
- ☐ When you feel that the Student has mastered the material, take the Mastery Exercise sheet and follow directions _exactly_ as written.

Lesson 20

CLEAN, FEED AND WATER ANIMALS IN INDIRECT BEDDING CAGES

SCHEDULE CHART

☐ VIEW Audio-visual Demonstration Exercise, summarized on pages 20-1 through 20-5, in Room ________. View it as many times as you want.

☐ MEET ____________ (Instructor) at ________ (time) on ________ (date) in ________________ (room and bldg.) for Practice and Mastery Exercises.

Instructor:

☐ In your facility how does an animal technician know when rooms are to be cleaned?

☐ What is the process for exchanging clean racks, cages and pans for dirty ones in your facility?

☐ When only the pans are to be cleaned, how is it done in your facility?

☐ Wash hands, check supplies, count cages to be cleaned, in any animal room.

☐ The schedule and regulations will indicate what CLEANING has to be done.

☐ In changing cages, bring the rack of clean cages, cage pans, and water bottles into the animal room along the clean hallways.

☐ Cage pans will have bedding in them when they are picked up at the wash room.

☐ Paper liners are in the animal room, waiting to be put in clean pans.

☐ Within the room, cage by cage:

    Change cage card first, putting cage card on clean cage
    Switch the animal.

☐ If only the cage pans are being changed, put clean ones on the rack and stack the dirty ones to take to the wash area.

☐ Dirty bedding should be emptied at the wash room.

In addition:

After counting the cages, add to the total any more that are requested by the investigator or supervisor.

☐ Some FRONT-OPENING CAGES (for cats, dogs, monkeys) can't be moved. They must be cleaned right in the room.

☐ The animal is removed to another cage or (for the dog) to a holding pen or run.

☐ The cage is washed or hosed down. Soap or disinfectant comes right out of the hose.

☐ The disinfectant used in the cat room has to be non-poisonous (non-toxic) to cats. Cats are very sensitive to some disinfectants. The right disinfectant will be in the cat room, and labeled.

☐ After using the disinfectant, rinse the cage with the hose.

☐ When the cage is dry, put the animal back into it.

In addition:

Cages or racks should be changed for clean ones once every week or two weeks.

Rabbit racks may need changing more often because of hair.

The schedule for changing should be posted in the animal room.

Racks may be color-coded to indicate when they are to be changed.

Be careful of open holes, sewers, or steps when moving racks.

When cleaning a cage to which water is delivered by pipeline, depress the valve for the cage to make sure it is working.

☐ WATERING the animals in HANGING-BASKET or FRONT-OPENING CAGES is the same as for direct bedding cages, but perhaps with a different size bottle.

☐ Or a pipeline (automatic) waterer might be in [illegible]

☐ The bottles should be almost but not quite full.

☐ Put the rubber stopper in the bottle and attach the bottle to the cage.

☐ Make sure the water is flowing freely.

☐ In the hanging-basket cage, the bottle goes in the tray next to the feeder.

☐ In the front-opening cage, the spout passes through two openings into the cage and it is held there by a metal band.

☐ WATER BOWLS for the cat and dog are kept 3/4 full all the time.

☐ Dogs may need to be watered more than once a day.

☐ A clean bowl is put inside the cage and usually attached so it doesn't get tipped over.

In addition:

Fill bottles to within one inch of the top.

Bottles that are completely filled will not permit water to come out of the tuble.

Water bottles should be checked daily (no less than half full at any time).

They should not be leaking or dirty.

Check a pipeline system for

- pressure (at gauge)
- leaks

Rabbits drink a lot of water.

☐ For FEEDING, use a scoop and fill the feeders 3/4 full, except for dogs and monkeys.

☐ Dogs and monkeys usually get a specific amount, one scoop or two scoops. The information about these animals is on the cage card.

☐ For a FRONT-OPENING CAGE, the feeder is attached to the front of the cage.

☐ Part of the feeder goes inside the cage, held there by a metal band like the water bottle.

☐ Then, a scoop being used, the feeder is filled to the proper level.

☐ Special or extra feed, any supplement asked for by the investigator, is given at the regular feed time.

☐ Dogs and cats usually eat as well as drink from bowls.

☐ A clean bowl is used every day.

☐ The bowl is put inside the cage like the water bowl, attached so it is easy to get to but not easy to tip over.

In addition:

Do not use the hand to fill the feeders; hands may carry germs.

The feed level should be checked every day.

Be sure the animals can reach the feed.

Leave any spilled feed to be swept. Do not pick up spilled feed from the floor; it may be contaminated.

Feeders should be changed twice a week to avoid build-up of particles of feed or mold on feed.

Greens fed as supplements should be fresh, stored in the refrigerator, and washed before use.

Do not add fresh feed to a bowl until all feed already there is eaten. Otherwise the feed on the bottom will get stale.

☐ The room-cleaning sequence is the same described in Lesson 19.

- check the ventilation ducts to keep them clear.
- Sponge off the counter area.
- Sweep the floor with a broom to get all spilled feed or bedding.
- Mix the disinfectant solution for the floor.
- Do the walls if they are to be washed, sponging the solution on.
- Then mop the floor.
- Take the trash can out of the room so it can be emptied and washed out.

PRACTICE EXERCISE

LESSON 20

INSTRUCTOR: AFTER THE STUDENTS HAVE VIEWED THE AUDIO-VISUAL DEMONSTRATION EXERCISE FOR LESSON 20, TAKE A COPY OF THE PRACTICE EXERCISE TO THE ROOM(S) IN WHICH THE PRACTICE EXERCISE WILL BE HELD.

SHOW EACH STUDENT HOW TO CLEAN, FEED, AND WATER ANIMALS IN EACH OF THE DIFFERENT INDIRECT BEDDING CAGES IN YOUR FACILITY.

DISCUSS AND DEMONSTRATE ALL THE STEPS OF CLEANING THE ROOM, INCLUDING THE FLOORS, WALLS, VENTS, SINKS, AND SO ON.

AS SOON AS YOU FEEL THAT THE STUDENTS HAVE LEARNED THE NECESSARY SKILLS FOR THIS LESSON, YOU CAN GO ON TO THE MASTERY EXERCISE. UNTIL THAT TIME, CONTINUE ALLOWING THEM TO PRACTICE, HELPING THEM AS NEEDED.

MASTERY EXERCISE

LESSON 20

INSTRUCTOR: AFTER THE STUDENTS HAVE COMPLETED THE PRACTICE EXERCISE FOR LESSON 20, TAKE A COPY OF THE MASTERY EXERCISE AND GO TO THE ROOM(S) IN WHICH THE MASTERY EXERCISE WILL BE HELD.

SAY "WE'RE GOING TO CHECK OUT HOUSEKEEPING PROCEDURES IN DIFFERENT ROOMS. I'LL ASK YOU TO CLEAN, FEED AND WATER DIFFERENT CAGES OF ANIMALS AND TO CLEAN AN ANIMAL ROOM. PLEASE WAIT OUTSIDE UNTIL I CALL FOR YOU, ONE AT A TIME."

SAY "ACCORDING TO OUR SCHEDULE, WHICH ROOMS ARE TO BE CLEANED TODAY?"

SELECT ONE OF THE ROOMS WITH INDIRECT BEDDING AND GO THERE.

GO INTO THE ROOM WITH THE FIRST STUDENT. LEAVE THE REMAINING STUDENTS OUTSIDE THE ROOM.

POINT TO ONE OF THE INDIRECT BEDDING CAGES AND SAY "PLEASE CLEAN THAT CAGE, AND FEED AND WATER THE ANIMALS."

IF THE STUDENT GIVES A WRONG ANSWER, DON'T SAY ANYTHING RIGHT AWAY. WAIT FOR A MINUTE TO GIVE HIM A CHANCE TO CHANGE HIS ANSWER.

IF HE STILL DOESN'T KNOW THE RIGHT ANSWER, REPEAT THE PRACTICE EXERCISE WITH HIM. THEN COME BACK TO THE MASTERY EXERCISE, TO MAKE SURE THAT HE HAS MASTERY OF THE SKILL BEFORE YOU GO ON.

WHEN THE STUDENT GIVES A RIGHT ANSWER, SAY "GOOD" OR "RIGHT."

REPEAT THE ABOVE STEPS FOR EACH OF THE DIFFERENT TYPES OF INDIRECT BEDDING CAGES IN YOUR FACILITY.

(ACT AS YOU DID EARLIER IF THE STUDENT DOES SOMETHING THAT IS WRONG.)

SAY "NOW CLEAN THIS ROOM FROM TOP TO BOTTOM. I'LL BE BACK IN A LITTLE WHILE TO SEE HOW YOU'VE DONE."

GO WITH THE SECOND STUDENT INTO ANOTHER ROOM WITH INDIRECT BEDDING CAGES AND REPEAT THE ABOVE PROCEDURES. BY THE TIME YOU HAVE ASKED HIM TO CLEAN THE ROOM, YOU SHOULD BE ABLE TO GO BACK AND FINISH WITH THE FIRST STUDENT.

CHECK OUT THE ROOM CLEANED BY THE FIRST STUDENT. ASK "TELL ME ALL THE THINGS YOU DID IN HERE."

(ACT AS YOU DID EARLIER IF THE STUDENT HAS DONE SOMETHING WRONG OR SKIPPED A STEP.)

REPEAT THE ABOUVE STEP WITH THE SECOND STUDENT.

THEN REPEAT THE EXERCISE FOR EACH OF THE REMAINING STUDENTS.

AS EACH STUDENT FINISHES CORRECTLY, SIGN HIS LESSON CERTIFICATE.

Instructor:

Before meeting with Students, do the following (check when done):

☐ Review the Practice and Mastery Exercises at the end of this Lesson.

☐ Review the A-V Lesson.

☐ Make notes regarding any facility differences (procedures that differ from those shown in the A-V presentation). Space is provided on the left-hand pages of this manual.

☐ Prepare an area for the Practice and Mastery sessions.

Only after you have done all of the above:

☐ Have the Student view the A-V as many times as he likes.

☐ Take the Student to the appropriate area so he can practice the skills described on the practice sheet.

☐ When you feel that the Student has mastered the material, take the Mastery Exercise sheet and follow directions exactly as written.

Lesson 21

CLEAN, FEED, AND WATER ANIMALS IN PENS AND SPECIAL CAGES

SCHEDULE CHART

☐ VIEW Audio-visual Demonstration Exercise, summarized on pages 21-1 through 21-4, in Room __________. View it as many times as you want.

☐ MEET ____________________ at __________ on __________
Instructor time date

in ______________________ for Practice and Mastery
room and bldg.

Exercises.

Instructor:

How are pens cleaned in your facility?

☐ Pigs, sheep, and goats are kept in PENS.

☐ Sometimes dogs and cats and chickens are kept in pens too.

☐ Pens can be either inside or outside.

☐ In CLEANING a pen, first thing is to take out feed and water containers.

☐ If there are self-feeders or pipeline waterers, there's nothing to take out.

☐ Next, for those inside pens in which bedding is used, remove the soiled bedding, using a shovel.

☐ Shovel the bedding into a wheelbarrow and take it to the place where it is burned or to the garbage area.

☐ Then sweep the floor with a broom to get what the shovel missed.

☐ Hose out an outdoor pen. There is not likely to be bedding in an outside pen.

☐ Use a hose or a high-pressure water gun.

☐ To be sure not to get the animals wet, put them in a holding area.

☐ If that is not possible, be careful NOT to get them wet.

☐ A wet, cold animal may get sick. Animals can't come in and dry off like people can.

☐ Put clean bedding in the pens that soiled bedding came from.

☐ Then put in clean bowls or buckets with clean feed.

☐ If the pen is indoors, the feed is usually kept right in the room.

☐ If the pen is outdoors, bring the feed from the feed room on a low-bed truck.

☐ Bedding, if it is used, is brought in by low-bed truck also.

☐ Bedding is sometimes used in the covered area of an outside pen with a shed or a roof over part of the pen.

☐ This is to permit animals to get out of the rain or the hot sun.

☐ Give supplements, such as mineral blocks, with the feed for farm animals.

☐ Check DAILY to make sure there is enough feed and water.

☐ Check self-feeding devices to make sure feed is flowing and is not moldy.

☐ Next, give the animals clean water.

☐ If there is a pipeline waterer, check to make sure it is working.

☐ Animals should get fresh water EVERY day.

☐ Dump out the old water and fill the container with fresh water.

In addition:

As always, use a scoop and not your hand in filling the feed container.

Do not pick up spilled feed from the floor. Leave it to be swept.

For sheep and goats, hay or a laboratory diet of compressed hay may be used.

☐ The SPECIAL CAGES include:

- filter top cage
- metabolism cage
- exercise cage
- gang cage
- transport cage
- brooder

☐ For the exercise cage or filter top cage, follow the system used for the nesting cage.

☐ However, for the common filter top cage, the top gets autoclaved whenever the cage is washed.

☐ In those cages with tops that do NOT have to be specially cleaned, the cage should be left uncovered ONLY long enough to clean the cover.

☐ Be SURE the filter top is replaced so that it fits properly.

Instructor:

■ How are metabolism cages cleaned in your facility?

☐ For the metabolism cage, there is NO bedding to change.

☐ Only the feed and water containers need care.

☐ The technician must SAVE the feces and urine passed by the animals so they can be analyzed.

☐ The metabolism cages are taken to the wash room.

☐ The gang cage is hosed out like the outdoor pen.

☐ Be careful not to get the animals wet.

PRACTICE EXERCISE

LESSON 21

INSTRUCTOR: AFTER THE STUDENTS HAVE VIEWED THE AUDIO-VISUAL DEMONSTRATION EXERCISE FOR LESSON 21, TAKE A COPY OF THE PRACTICE EXERCISE TO THE ROOM(S) IN WHICH THE PRACTICE EXERCISE WILL BE HELD.

SHOW EACH STUDENT HOW TO CLEAN, FEED, AND WATER ANIMALS IN PENS AND IN EACH OF THE DIFFERENT KINDS OF SPECIAL CAGING USED IN YOUR FACILITY.

DISCUSS AND DEMONSTRATE ALL THE STEPS OF CLEANING THE ROOM, INCLUDING THE FLOORS, WALLS, VENTS, SINKS, AND SO ON.

AS SOON AS YOU FEEL THAT THE STUDENTS HAVE LEARNED THE NECESSARY SKILLS FOR THIS LESSON, YOU CAN GO ON TO THE MASTERY EXERCISE. UNTIL THAT TIME, CONTINUE ALLOWING THEM TO PRACTICE, HELPING THEM AS NEEDED.

MASTERY EXERCISE

LESSON 21

INSTRUCTOR: AFTER THE STUDENTS HAVE COMPLETED THE PRACTICE EXERCISE FOR LESSON 21, TAKE A COPY OF THE MASTERY EXERCISE AND GO TO THE ROOM(S) IN WHICH THE MASTERY EXERCISE WILL BE HELD.

SAY "We're going to check out housekeeping procedures in different rooms. I'll ask you to clean, feed, and water animals in pens and special cages. Please wait outside until I call for you, one at a time."

SELECT ONE OF THE ROOMS WITH PENS AND GO THERE.

GO INTO THE ROOM WITH THE FIRST STUDENT. LEAVE THE REMAINING STUDENTS OUTSIDE THE ROOM.

POINT TO ONE OF THE PENS AND SAY "Please clean that pen, and feed and water the animals."

IF THE STUDENT GIVES A WRONG ANSWER, DON'T SAY ANYTHING RIGHT AWAY. WAIT FOR A MINUTE TO GIVE HIM A CHANCE TO CHANGE HIS ANSWER.

IF THE STUDENT STILL DOESN'T KNOW THE RIGHT ANSWER, REPEAT THE PRACTICE EXERCISE WITH HIM. THEN COME BACK TO THE MASTERY EXERCISE, TO MAKE SURE THAT HE HAS MASTERY OF THE SKILL BEFORE YOU GO ON.

WHEN THE STUDENT GIVES A RIGHT ANSWER, SAY "Good" OR "Right."

GO TO A ROOM WITH SPECIAL CAGES AND REPEAT THE ABOVE STEPS FOR EACH OF THE DIFFERENT TYPES OF SPECIAL CAGING IN YOUR FACILITY.

(ACT AS YOU DID EARLIER IF THE STUDENT DOES SOMETHING INCORRECTLY.)

SAY "Now clean this room form top to bottom. I'll be back in a little while to see how you've done."

GO WITH THE SECOND STUDENT INTO ANOTHER ROOM WITH PENS, THEN

ANOTHER ROOM WITH SPECIAL CAGES, REPEATING THE PROCEDURES OUTLINED SO FAR IN THIS EXERCISE. BY THE TIME YOU HAVE ASKED HIM TO CLEAN THE ROOM, YOU SHOULD BE ABLE TO GO BACK AND FINISH WITH THE FIRST STUDENT.

CHECK OUT THE ROOM CLEANED BY THE FIRST STUDENT. ASK "TELL ME ALL THE THINGS YOU DID IN HERE."

(ACT AS YOU DID EARLIER IF THE STUDENT HAS DONE SOMETHING WRONG OR SKIPPED A STEP.)

REPEAT THE ABOVE STEPS WITH THE SECOND STUDENT.

THEN REPEAT THE EXERCISE FOR EACH OF THE REMAINING STUDENTS.

AS EACH STUDENT FINISHES CORRECTLY, SIGN HIS LESSON CERTIFICATE.

Instructor:

Before meeting with Students, do the following (check when done):

☐ Review the Practice and Mastery Exercises at the end of this Lesson.

☐ Review the A-V Lesson.

☐ Make notes regarding any facility differences (procedures that differ from those shown in the A-V presentation). Space is provided on the left-hand pages of this manual.

☐ Prepare an area for the Practice and Mastery sessions.

Only after you have done all of the above:

☐ Have the Student view the A-V as many times as he likes.

☐ Take the Student to the appropriate area so he can practice the skills described on the practice sheet.

☐ When you feel that the Student has mastered the material, take the Mastery Exercise sheet and follow directions exactly as written.

Lesson 22

RESTRAINT OF RODENTS AND RABBITS

☐ VIEW Audio-visual Demonstration Exercise, summarized on pages 22-1 through 22-5

☐ MEET ____________________ at __________ on __________
Instructor time date

in __________________________ for Practice and Mastery
room and bldg.

Exercises.

☐ Restraining small active animals needs special technique.

☐ The animal has to be kept quiet long enough for the investigator to do what he has to do.

☐ In handling, the animal can move while you hold it. But in RESTRAINT, it has to be held VERY STILL.

☐ This is NOT done by more pressure. That might hurt the animal.

☐ There are three kinds of restraint:

* physical - holding the animal still

* mechanical - holding the animal, as in a box

* chemical - as by an injection

☐ The right position to hold the animal in depends on where the needle is to be put.

☐ Restraint as it is discussed in this lesson is limited to restraining for injections or blood collection.

☐ There are different places, called SITES, for injection or blood collection, depending on the animal.

☐ Restraining an animal is useful not only in assisting an investigator, but also for a nervous or upset animal.

☐ Sometimes it is not practical to give a tranquilizer to an animal.

☐ For example, the investigator may not want the animal to have a drug.

☐ So to restrain an animal hard to handle, a MECHANICAL device may be used, like a cat bag or a plastic box for a rat.

☐ Such devices hold an animal so it cannot move and yet cannot be hurt.

☐ CHEMICAL restraint may be in the form of a pill or a shot.

☐ The chemical may be a tranquilizer, or an anesthetic, for example.

☐ Chemical restraint may be necessary to prevent pain or discomfort to the animal, like for tattooing or surgery or some types of blood collection.

☐ A monkey in a squeeze cage is being restrained, but it should not be mechanically confined that way too long.

☐ Instead, a second person should give it an injection of a tranquilizer while it is being held for a short time.

☐ The beginning technician is NOT expected to give these shots. These are given by the vet, or the investigator, or a technician with more experience.

☐ But the technician must know the different kinds of PHYSICAL restraint.

Instructor:

How are rodents restrained in your facility for injection and blood collection?

☐ RODENTS may get needles in several different places, for injection or blood collection.

☐ One such place is the abdominal cavity.

☐ Pick the animal up as described in Lesson 11, "Handling and Sexing Rodents and Rabbits".

☐ Turn it over in your hand as if you were going to sex it.

☐ With its back in your palm, hold its feet or tail with your little finger.

☐ This restraint is also used in passing a stomach tube, which is a way to get food or medicine right into the animal's stomach.

☐ Other rodents are handled the same way, though a large rat may take two hands to hold it. The second hand holds its legs.

☐ The hamster requires two hands; there is no tail to hold.

☐ The guinea pig takes two hands, though it is supported in the hand that at the same time holds its legs.

☐ The TAIL is another injection site for mouse or rat.

☐ So the animal must be held and the tail must be kept still.

☐ Place a mouse on a flat surface and hold the base of its tail with your thumb and first finger.

☐ Cover its body with the other hand, holding its head firmly between your first and second fingers.

☐ Once the animal is restrained, move the hand away from the base of its tail.

☐ Hold the tail at the tip to keep it from moving.

☐ The mouse or rat may be restrained in a box.

☐ In the box it CAN'T turn around or get away.

☐ Pull the tail gently through a hole in the box and the animal is ready for the procedure.

☐ By using a box, you are certain not to hurt the animal by holding it too tight.

☐ Restraining rodents is not too different from handling them.

☐ Remember: In restraint, the animal must be kept still in one position.

Instructor:

☐ How are rabbits restrained in your facility?

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☐ RABBITS are bigger and stronger than mice or rats.

☐ The rabbit can kick and is hard to hold still.

☐ A rabbit box is used for most injections or blood collection.

☐ But a special wooden box, instead of the regular metal box, is used to pass a stomach tube in the rabbit.

☐ Either kind of box is used for taking blood or making an injection in the rabbit's ear.

☐ The rabbit's ear veins are easy to see, so these procedures are rather easy with the rabbit.

PRACTICE EXERCISE

LESSON 22

INSTRUCTOR: AFTER THE STUDENTS HAVE VIEWED THE AUDIO-VISUAL DEMONSTRATION EXERCISE FOR LESSON 22, TAKE A COPY OF THE PRACTICE EXERCISE TO THE ROOM(S) IN WHICH THE PRACTICE EXERCISE WILL BE HELD.

SHOW AND EXPLAIN TO EACH STUDENT THE CORRECT RESTRAINT TECHNIQUES (INCLUDING USE OF RESTRAINT DEVICES) FOR THE FOLLOWING PROCEDURES:

A. MOUSE:	INTRAPERITONEAL INJECTION, TAIL VENIPUNCTURE, HEART PUNCTURE, BLEEDING FROM THE ORBIT.
B. RAT:	INTRAPERITONEAL INJECTION, TAIL VENIPUNCTURE, HEART PUNCTURE.
C. HAMSTER:	INTRAPERITONEAL INJECTION, HEART PUNCTURE.
D. GUINEA PIG:	INTRAPERITONEAL INJECTION, HEART PUNCTURE.
E. RABBIT:	INJECTION IN THE EAR VEIN, VENIPUNCTURE, IN THE EAR VEIN, HEART PUNCTURE.

AS SOON AS YOU FEEL THAT THE STUDENTS HAVE LEARNED THE NECESSARY SKILLS FOR THIS LESSON, YOU CAN GO ON TO THE MASTERY EXERCISE. UNTIL THAT TIME, CONTINUE ALLOWING THEM TO PRACTICE, HELPING THEM AS NEEDED.

MASTERY EXERCISE

LESSON 22

INSTRUCTOR: AFTER THE STUDENTS HAVE COMPLETED THE PRACTICE EXERCISE FOR LESSON 22, TAKE A COPY OF THE MASTERY EXERCISE AND GO TO THE ROOM(S) IN WHICH THE MASTERY EXERCISE WILL BE HELD.

SAY "IN THIS ROOM, WE'RE GOING TO PERFORM CERTAIN RESTRAINT PROCEDURES ON DIFFERENT ANIMALS. PLEASE WAIT OUTSIDE UNTIL I CALL YOU IN, ONE BY ONE. I'LL ASK YOU TO RESTRAIN RODENTS AND RABBITS FOR VARIOUS TECHNIQUES OF BLOOD COLLECTION AND INJECTION."

GO INTO THE ROOM WITH THE FIRST STUDENT. LEAVE THE REMAINING STUDENTS OUTSIDE THE ROOM.

SAY "PLEASE TAKE A MOUSE FROM THAT CAGE AND RESTRAIN IT PROPERLY FOR AN INTRAPERITONEAL INJECTION."

IF THE STUDENT DOES SOMETHING WRONG, DON'T SAY ANYTHING RIGHT AWAY. WAIT FOR A MINUTE TO GIVE HIM A CHANCE TO CHANGE HIS ANSWER.

IF AT ANY POINT IN THE ABOVE SEQUENCE THE STUDENT BEGINS TO HANDLE THE ANIMAL IN A WAY THAT MAY BE DANGEROUS TO THE STUDENT OR PAINFUL TO THE ANIMAL, GENTLY STOP HIM. EXPLAIN WHAT MAY HAPPEN DOING IT THE WAY HE WAS, AND GO BACK TO THE PRACTICE EXERCISE.

IF HE STILL DOESN'T KNOW THE RIGHT ANSWER, REPEAT THE PRACTICE EXERCISE WITH HIM. THEN COME BACK TO THE MASTERY EXERCISE, TO MAKE SURE THAT HE HAS MASTERY OF THE SKILL BEFORE YOU GO ON.

WHEN THE STUDENT GIVES A RIGHT ANSWER, SAY "GOOD" OR "RIGHT."

FOLLOWING THE SAME STEPS, ASK THE STUDENT TO PERFORM RESTRAINT FOR THE FOLLOWING PROCEDURES:

A. MOUSE: TAIL VENIPUNCTURE, JUGULAR VENIPUNCTURE, HEART PUNCTURE, BLEEDING FROM THE ORBIT.

B. RAT: INTRAPERITONEAL INJECTION, TAIL VENIPUNCTURE, HEART PUNCTURE.

C. HAMSTER: INTRAPERITONEAL INJECTION, HEART PUNCTURE.

D. GUINEA PIG: INTRAPERITONEAL INJECTION, HEART PUNCTURE.

E. RABBIT: INJECTION IN THE EAR VEIN, VENIPUNCTURE IN THE EAR VEIN, HEART PUNCTURE.

(ACT AS YOU DID EARLIER IF THE STUDENT DOES ANYTHING THAT IS INCORRECT OR THAT MAY BE UNSAFE.)

REPEAT THE EXERCISE FOR EACH OF THE REMAINING STUDENTS.

AS EACH STUDENT FINISHES CORRECTLY, SIGN HIS LESSON CERTIFICATE.

Instructor:

Before meeting with Students, do the following (check when done):

☐ Review the Practice and Mastery Exercises at the end of this Lesson.

☐ Review the A-V Lesson.

☐ Make notes regarding any facility differences (procedures that differ from those shown in the A-V presentation). Space is provided on the left-hand pages of this manual.

☐ Prepare an area for the Practice and Mastery sessions.

Only after you have done all of the above:

☐ Have the Student view the A-V as many times as he likes.

☐ Take the Student to the appropriate area so he can practice the skills described on the practice sheet.

☐ When you feel that the Student has mastered the material, take the Mastery Exercise sheet and follow directions exactly as written.

Lesson 23

RESTRAINT OF CATS, DOGS, AND NON-HUMAN PRIMATES

SCHEDULE CHART

☐ VIEW Audio-visual Demonstration Exercise, summarized on pages 23-1 through 23-6, in Room __________. View it as many times as you want.

☐ MEET ____________________ at __________ on __________
Instructor time date
in ____________________ for Practice and Mastery
room and bldg.
Exercises.

Instructor:

☐ The techniques performed and even the methods of restraint vary with the facility. Presented here is only one of the acceptable ways to perform each of these tasks. Modify the information given in here for use in your facility.

☐ Sometimes a procedure requires two people to carry it through — one to restrain the animal and one to perform the procedure.

Lesson 25 will take up blood collection and injection.

☐ There are three types of laboratory RESTRAINT:

- physical: holding an animal
- mechanical: such as a box or board to hold an animal
- chemical: like a sedative or tranquilizer

☐ The SAME physical RESTRAINT procedures are followed for DOGS and CATS.

☐ First, LIFT the animal and set it on a TABLE in CROUCHED position.

☐ If it is a dog that seems likely to bite, MUZZLE it first.

☐ Stand to its LEFT, lean ACROSS the dog, and wrap your RIGHT arm around it, pulling it close to you.

☐ With your LEFT arm, reach UNDER its head and rest your hand against its NECK.

☐ Pull the dog's HEAD so it FACES AWAY from the person giving the INJECTION.

☐ This is the BASIC RESTRAINT POSITION.

☐ Let a LARGER DOG stand on the FLOOR: hold it with one hand under its CHIN, the other on the BACK of its NECK.

☐ INTRAVENOUS INJECTIONS or taking BLOOD SAMPLES are generally done on the FRONT LEG.

☐ With the animal in restraint position, GRASP the right front leg with your hand, just behind the animal's elbow.

☐ HOLD it firmly, PRESSING with your thumb tight enough to make the VEIN stand out.

☐ For an injection, after the NEEDLE has been INSERTED into the vein, RELEASE pressure. For a blood sample, do NOT release pressure until the sample has been taken.

Instructor:

☐ How are dogs and cats restrained in your facility?

☐ For an INJECTION into the MUSCLE, the THIGH of the hind leg is used.

☐ The animal is held in the basic restraint position while the INJECTION is made by the SECOND PERSON.

☐ Some EXCITED CATS require two technicians to restrain them.

☐ When an animal struggles violently, MECHANICAL RESTRAINT may be BETTER than physical restraint.

☐ Mechanical restraint PROTECTS both HANDLER and ANIMAL.

☐ A CAT BAG may be used to restrain a cat.

☐ The cat goes into the CANVAS BAG, head or rear first.

☐ Then the bag is PULLED CLOSED.

☐ If the cat has gone in TAIL FIRST, the bag is pulled closed with the cat's HEAD STICKING OUT.

☐ The cat's LEG may be pulled out of the bag through a HOLE.

☐ The cat may also be put into a CAT TUBE, of plastic, for restraint.

☐ It may also be wrapped in a LARGE TOWEL.

Instructor:

☐ How are dogs muzzled in your facility?

☐ Dogs are LESS LIKELY than cats to struggle hard.

☐ The MUZZLE, a familiar restraint device, is a leather apparatus that goes over the dog's MOUTH.

☐ It PREVENTS the dog from BITING.

☐ In the lab, instead of store-bought muzzles, GAUZE BANDAGE is generally used, WRAPPED a couple of times AROUND the mouth.

☐ One person holds the dog's neck while the other wraps the gauze.

☐ The gauze is then TIED BACK around the dog's EARS.

☐ For OPERATIONS, CHEMICAL RESTRAINT is used.

☐ The animal is held in physical or mechanical restraint while an ANESTHETIC is INJECTED.

☐ Anesthesia is used before ANY PROCEDURE that may cause PAIN to the animal.

☐ For FURTHER RESTRAINT, once the animal is anesthetized, sometimes it is placed, as with a dog, on its BACK in a

☐ V-SHAPED TROUGH with its LEGS TIED to posts.

Instructor:

☐ How are primates restrained in your facility?

☐ PRIMATES are easier to work with when ANESTHETIZED or given a TRANQUILIZER.

☐ The MONKEY is given a shot through the mesh FRONT of a SQUEEZE CAGE.

☐ For a blood sample or injection when the primate is not anesthetized, HOLD the monkey's FOREARMS firmly behind its back with one hand.

☐ GRASP the ANKLES with the other hand, STRETCH the LEGS out straight, and put the animal ON ITS SIDE on a treatment table.

☐ For LARGE MONKEYS, more people or chemical restraint is needed.

☐ To pass a STOMACH TUBE in a primate, HOLD its ARMS firmly behind its back with one hand.

☐ With the other hand, GRASP the back of the NECK.

☐ HOLD ITS LEGS between your legs. For a large monkey, get a third technician to hold the legs.

☐ Keep the monkey's HEAD HIGH while the stomach tube is INSERTED.

☐ The same position is used to give a tranquilized monkey a TUBERCULIN TEST.

☐ First, INJECT the tranquilizer while the monkey is in the squeeze cage.

☐ The TUBERCULIN test is later given on the monkey's EYELID, with the HEAD being hold STEADY.

☐ The primates are the ONLY lab animals to get this test.

☐ That is one reason MASKS are worn around monkeys, because they can

☐ carry diseases that can be transmitted to man.

☐ Monkeys are also TATTOOED.

☐ Normally they are tranquilized for this procedure.

☐ A TIE BOARD or a CROSS BOARD is sometimes used to RESTRAIN the primates.

☐ All these procedures are intended to make things EASIER for both ANIMALS and TECHNICIANS.

PRACTICE EXERCISE

LESSON 23

INSTRUCTOR: AFTER THE STUDENTS HAVE VIEWED THE AUDIO-VISUAL DEMONSTRATION EXERCISE FOR LESSON 23, TAKE A COPY OF THE PRACTICE EXERCISE TO THE ROOM(S) IN WHICH THE PRACTICE EXERCISE WILL BE HELD.

SHOW EACH STUDENT THE VARIOUS RESTRAINT POSITIONS HE WILL BE EXPECTED TO HOLD A CAT IN FOR VARIOUS PURPOSES. DEMONSTRATE THE USE OF VARIOUS RESTRAINT DEVICES SUCH AS THE CAT BAG.

THEN DO THE SAME FOR THE DOG AND THE PRIMATE.

DEMONSTRATE HOW TO MUZZLE A DOG WITH A MUZZLE OR WITH GAUZE, WHICHEVER IS USED AT YOUR FACILITY.

AS SOON AS YOU FEEL THAT THE STUDENTS HAVE LEARNED THE NECESSARY SKILLS FOR THIS LESSON, YOU CAN GO ON TO THE MASTERY EXERCISE. UNTIL THAT TIME, CONTINUE ALLOWING THEM TO PRACTICE, HELPING THEM AS NEEDED.

MASTERY EXERCISE

LESSON 23

INSTRUCTOR: AFTER THE STUDENTS HAVE COMPLETED THE PRACTICE EXERCISE FOR LESSON 23, TAKE A COPY OF THE MASTERY EXERCISE AND GO TO THE ROOM(S) IN WHICH THE MASTERY EXERCISE WILL BE HELD.

SAY "IN THIS ROOM, WE'RE GOING TO PERFORM CERTAIN RESTRAINT PROCEDURES ON DIFFERENT ANIMALS. PLEASE WAIT OUTSIDE UNTIL I CALL YOU IN, ONE BY ONE. I'LL ASK YOU TO RESTRAIN A CAT, A DOG AND A PRIMATE FOR VARIOUS PURPOSES, SUCH AS AN INJECTION OR A TUBERCULIN TEST."

GO INTO THE ROOM WITH THE FIRST STUDENT. LEAVE THE REMAINING STUDENTS OUTSIDE THE ROOM.

SAY "PLEASE TAKE THAT CAT FROM ITS CAGE AND HOLD IT FOR AN INJECTION IN THE FRONT LEG."

IF THE STUDENT DOES SOMETHING THAT IS WRONG, DON'T SAY ANYTHING RIGHT AWAY. WAIT FOR A MINUTE TO GIVE HIM A CHANCE TO CHANGE HIS ANSWER.

IF AT ANY POINT IN THE ABOVE SEQUENCE THE STUDENT BEGINS TO HANDLE THE ANIMAL IN A WAY THAT MAY BE DANGEROUS TO THE STUDENT OR PAINFUL TO THE ANIMAL, GENTLY STOP HIM. EXPLAIN WHAT MAY HAPPEN DOING IT THE WAY HE WAS, AND GO BACK TO THE PRACTICE EXERCISE.

IF THE STUDENT STILL DOESN'T KNOW THE RIGHT ANSWER, REPEAT THE PRACTICE EXERCISE WITH HIM. THEN COME BACK TO THE MASTERY EXERCISE, TO MAKE SURE THAT HE HAS MASTERY OF THE SKILL BEFORE YOU GO ON.

WHEN THE STUDENT GIVES A RIGHT ANSWER, SAY "GOOD" OR "RIGHT."

HAND THE STUDENT A CAT BAG AND SAY, "PUT THE CAT IN THIS CAT BAG SO THAT I CAN INJECT ITS LEFT HIND LEG."

(ACT AS YOU DID EARLIER IF THE STUDENT DOES SOMETHING WRONG.)

SAY "NOW PUT THE CAT BACK IN ITS CAGE."

SAY "TAKE THE DOG FROM ITS CAGE AND HOLD IT FOR VENIPUNCTURE IN THE RIGHT FRONT LEG."

(ACT AS YOU DID EARLIER IF THE STUDENT DOES SOMETHING WRONG, OR THAT MAY BE UNSAFE.)

HAND THE STUDENT A ROLL OF GAUZE (OR A MUZZLE) AND SAY "PLEASE MUZZLE THE DOG WHILE I HOLD IT."

(ACT AS YOU DID EARLIER IF THE STUDENT DOES SOMETHING WRONG, OR THAT MAY BE UNSAFE.)

SAY "NOW REMOVE THE MUZZLE AND RETURN THE DOG TO ITS CAGE."

POINT TO A PRIMATE IN A CAGE AND SAY, "RESTRAIN THAT PRIMATE FOR A T.B. TEST IN THE UPPER EYELID."

(FOR THIS STEP, AND THE ONES THAT FOLLOW, ACT AS YOU DID EARLIER IF THE STUDENT DOES SOMETHING THAT IS WRONG OR THAT MAY BE UNSAFE.)

SAY "RESTRAIN THAT PRIMATE SO WE CAN PASS A STOMACH TUBE."

SAY "RESTRAIN THAT PRIMATE FOR TATTOOING."

REPEAT THE EXERCISE FOR EACH OF THE STUDENTS.

AS EACH STUDENT FINISHES CORRECTLY, SIGN HIS LESSON CERTIFICATE.

Instructor:

Before meeting with Students, do the following (check when done):

- ☐ Review the Practice and Mastery Exercises at the end of this Lesson.
- ☐ Review the A-V Lesson.
- ☐ Make notes regarding any facility differences (procedures that differ from those shown in the A-V presentation). Space is provided on the left-hand pages of this manual.
- ☐ Prepare an area for the Practice and Mastery sessions.

Only after you have done all of the above:

- ☐ Have the Student view the A-V as many times as he likes.
- ☐ Take the Student to the appropriate area so he can practice the skills described on the practice sheet.
- ☐ When you feel that the Student has mastered the material, take the Mastery Exercise sheet and follow directions exactly as written.

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Lesson 24

RESTRAINT OF FARM ANIMALS

SCHEDULE CHART

☐ VIEW Audio-visual Demonstration Exercise, summarized on pages 24-1 through 24-4, in Room __________. View it as many times as you want.

☐ MEET ____________________ at __________ on __________
Instructor time date

in __________________________ for Practice and Mastery Exercises.
room and bldg.

Instructor:

☐ How are poultry restrained in your facility?

☐ In POULTRY, blood is usually taken from the alar vein, on the under side of the wing close to the body.

☐ To hold the chicken for this procedure, grasp it with one hand by the upper part of the legs, near the body.

☐ With the other hand, hold its wing back away from its body. This exposes the vein.

☐ The bird can be held secure in this position for at least a short time.

Instructor:

☐ How are sheep and goats restrained in your facility?

☐ Neither the SHEEP nor the GOAT should give much trouble in restraint.

☐ Back the animal into the corner of its pen.

☐ Straddle its back and hold it steady with your knees.

☐ With one hand, hold the back of its neck; with the other hand under its jaw, hold its head up.

☐ Usually the animal's head is held straight.

☐ If it is necessary or useful, as for puncture of the jugular vein, the animal's head can be tilted away from the operator.

☐ When the sheep is having its wool sheared, it should be restrained.

☐ Straddle the sheep if its back is being sheared.

☐ For shearing the underside, set the sheep on its rump with its back to you.

☐ Put one arm under its neck and grasp the rear leg farthest from you with the other hand.

☐ Now lift the sheep and set it on its rump.

☐ Hold it off balance, so its legs don't touch the floor, to keep it from standing up.

☐ Tilt it slightly backward, against your legs.

☐ The same restraint can be used for jugular blood collection or for tagging the ear.

☐ Drenching (giving a medication by a dose syringe) can be done in this position too.

☐ Mechanical devices are seldom needed to restrain sheep or goats.

Instructor:

■ How are swine restrained in your facility?

☐ The PIG is fast and hard to catch.

☐ The nasal snare is used to restrain the pig.

☐ The snare is looped over the pig's snout.

☐ Stand behind the pig and get the snare's loop over the snout and behind the tusks.

☐ Then pull the loop tight.

☐ The pig will pull against this restraint, and it will take strength to hold it.

☐ While it is held in the snare, a second person can give an injection or tag its ear.

☐ For longer restraint, a second method is used.

☐ A rope is used to tie the pig to something, like the side of its pen.

☐ The rope is looped over the snout.

☐ Then the rope is worked into the pig's mouth behind the tusks and tightened.

☐ The pig will pull against the rope.

☐ By doing this, it will steady itself for the injection.

☐ The other end of the rope can be tied to a post or some other steady thing.

☐ For a small pig, under 100 pounds, just grab the hind legs.

☐ Get the pig's head between your legs and hold it steady.

☐ Or, hold its front legs and keep its body between your knees.

☐ The latter restraint is good for any procedure, including drenching.

☐ If surgery is to be performed, the pig is restrained in a V-shaped trough.

☐ Tie one of the pig's legs to the other, the rope passing under the trough.

☐ The pig has to be lifted by its legs to get it into the trough. That is why it must be a small pig.

☐ If it can't be caught and lifted, use the rope or the snare first.

☐ Two people might be needed for a difficult pig, or sometimes for a sheep or a goat; but NOT for poultry.

PRACTICE EXERCISE

LESSON 24

INSTRUCTOR: AFTER THE STUDENTS HAVE VIEWED THE AUDIO-VISUAL DEMONSTRATION EXERCISE FOR LESSON 24, TAKE A COPY OF THE PRACTICE EXERCISE TO THE ROOM(S) IN WHICH THE PRACTICE EXERCISE WILL BE HELD.

SHOW EACH STUDENT THE VARIOUS RESTRAINT POSITIONS HE WILL BE EXPECTED TO HOLD SHEEP, GOATS, SWINE AND POULTRY IN FOR VARIOUS PURPOSES.

AS SOON AS YOU FEEL THAT THE STUDENTS HAVE LEARNED THE NECESSARY SKILLS FOR THIS LESSON, YOU CAN GO ON TO THE MASTERY EXERCISE. UNTIL THAT TIME, CONTINUE ALLOWING THEM TO PRACTICE, HELPING THEM AS NEEDED.

MASTERY EXERCISE

LESSON 24

INSTRUCTOR: AFTER THE STUDENTS HAVE COMPLETED THE PRACTICE EXERCISE FOR LESSON 24, TAKE A COPY OF THE MASTERY EXERCISE AND GO TO THE ROOM(S) IN WHICH THE MASTERY EXERCISE WILL BE HELD.

SAY "IN THIS ROOM WE'RE GOING TO PERFORM CERTAIN RESTRAINT PROCEDURES ON SOME OF THE FARM ANIMALS. PLEASE WAIT OUTSIDE UNTIL I CALL YOU IN, ONE BY ONE."

GO INTO THE ROOM WITH THE FIRST STUDENT. LEAVE THE REMAINING STUDENTS OUTSIDE THE ROOM.

SAY "PLEASE RESTRAIN A SHEEP FOR A JUGULAR VENIPUNCTURE."

IF THE STUDENT GIVES A WRONG ANSWER OR PERFORMS ANY OF THE HANDLING INCORRECTLY, DON'T SAY ANYTHING RIGHT AWAY. WAIT FOR A MINUTE TO GIVE HIM A CHANCE TO CHANGE HIS ANSWER.

IF AT ANY POINT IN THE ABOVE SEQUENCE THE STUDENT BEGINS TO HANDLE THE ANIMAL IN A WAY THAT MAY BE DANGEROUS TO THE STUDENT OR PAINFUL TO THE ANIMAL, GENTLY STOP HIM. EXPLAIN WHAT MAY HAPPEN DOING IT THE WAY HE WAS, AND GO BACK TO THE PRACTICE EXERCISE.

IF THE STUDENT STILL DOESN'T KNOW THE RIGHT ANSWER, REPEAT THE PRACTICE EXERCISE WITH HIM. THEN COME BACK TO THE MASTERY EXERCISE, TO MAKE SURE THAT HE HAS MASTERY OF THE SKILL BEFORE YOU GO ON.

WHEN THE STUDENT GIVES A RIGHT ANSWER, SAY "GOOD" OR "RIGHT."

SAY "NOW RESTRAIN THAT SHEEP FOR AN INTRAMUSCULAR OR SUBCUTANEOUS INJECTION."

(FOR THIS STEP, AND THE ONES THAT FOLLOW, ACT AS YOU DID EARLIER IF THE STUDENT DOES SOMETHING THAT IS WRONG OR

THAT MAY BE UNSAFE.)

SAY "RESTRAIN A GOAT FOR JUGULAR VENIPUNCTURE."

SAY "RESTRAIN THAT GOAT FOR AN INTRAMUSCULAR OR SUBCUTANEOUS INJECTION."

SAY "RESTRAIN THAT PIG FOR AN INTRAVENOUS INJECTION IN THE EAR VEIN."

SAY "NOW RESTRAIN THAT PIG FOR AN INTRAMUSCULAR OR SUBCUTANEOUS INJECTION."

SAY "RESTRAIN A CHICKEN FOR VENIPUNCTURE IN THE WING."

SAY "NOW RESTRAIN THAT CHICKEN FOR HEART PUNCTURE."

REPEAT THE EXERCISE FOR EACH OF THE STUDENTS.

AS EACH STUDENT FINISHES CORRECTLY, SIGN HIS LESSON CERTIFICATE.

Instructor:

Before meeting with Students, do the following (check when done):

- ☐ Review the Practice and Mastery Exercises at the end of this Lesson.
- ☐ Review the A-V Lesson.
- ☐ Make notes regarding any facility differences (procedures that differ from those shown in the A-V presentation). Space is provided on the left-hand pages of this manual.
- ☐ Prepare an area for the Practice and Mastery sessions.

Only after you have done all of the above:

- ☐ Have the Student view the A-V as many times as he likes.
- ☐ Take the Student to the appropriate area so he can practice the skills described on the practice sheet.
- ☐ When you feel that the Student has mastered the material, take the Mastery Exercise sheet and follow directions exactly as written.

Lesson 25

BLOOD COLLECTION AND INJECTION

SCHEDULE CHART

☐ VIEW Audio-visual Demonstration Exercise, summarized on pages 25-1 through 25-7, in Room ________. View it as many times as you want.

☐ MEET ____________________ at __________ on __________
Instructor time date

In ________________________ for Practice and Mastery
room and bldg.

Exercises.

Instructor:

For which species and by which techniques are injections and withdrawals made in your facility?

☐ PREPARE the animal.

☐ If necessary, SHAVE the area where the needle will enter. HAIR may carry GERMS, so it is best to keep hair away from any open WOUND, even a needle puncture.

☐ Hair also INTERFERES with your seeing the VEIN that you want to inject.

☐ For BLOOD COLLECTION, or INJECTION, SWAB the area with ALCOHOL, to kill germs on the animal's skin.

☐ PREPARE the instrument, the SYRINGE.

☐ A syringe has several PARTS:

- the body: this is the syringe itself
- the plunger that fits inside the body
- the shaft of the needle, which goes into the animal
- the hub of the needle, which does not go in.

☐ The NEEDLE has a point cut at an ANGLE, called a BEVEL.

☐ The GAUGE of a needle is its THICKNESS.

☐ The LARGER the GAUGE the THINNER the NEEDLE; a 16 gauge needle is thicker than a 20 gauge.

Needles can be from 1/4 inch to 6 inches LONG.

☐ BOTH measurements are given in describing a needle. For example, a 22 gauge, 1 inch needle.

☐ The LENGTH and GAUGE of the needle must be RIGHT for the ANIMAL.

☐ Syringe bodies are of different SIZES, based on how much they hold.

☐ This measurement is in cc's, cubic centimeters.

☐ To FILL the SYRINGE

  * pick it up between your THUMB and FOREFINGER
  * PUT the NEEDLE in with the other hand
  * REMOVE the protective CAP from the needle.
  * WIPE the TOP of the bottle containing the drug with alcohol.
  * FILL the syringe with AIR by pulling the plunger back to the mark for the amount you will want in the syringe
  * TURN the BOTTLE upside down
  * PUSH the NEEDLE into the liquid in the bottle
  * PUSH the PLUNGER so the air goes into the bottle
  * PULL back on the PLUNGER to the number of cc's you want, and STOP

☐ To USE the SYRINGE

  * HOLD it between the FOREFINGER and MIDDLE FINGER
  * ELIMINATE AIR by PUSHING lightly on the plunger until a little liquid SPURTS out
  * SWAB the place of injection with ALCOHOL
  * INSERT the needle
  * PRESS on the top of the PLUNGER with the thumb slowly as you inject

☐ How FAST to inject a drug or to withdraw blood is a matter of practice or "feel".

☐ Any time you put a needle into a vein, put dry COTTON over the place where the needle went in, THEN withdraw the needle.

☐ Put PRESSURE on the cotton for about a MINUTE to keep blood from leaking out of the vein and collecting under the skin.

☐ In WITHDRAWING BLOOD, the syringe is held almost PARALLEL to the skin.

☐ That way the needle goes INTO and ALONG and not ACROSS and THROUGH the vein.

☐ This is also the way an INTRAVENOUS injection is given.

☐ This kind of injection is also called IV. It means "in the vein".

☐ BLOOD COLLECTION from the vein is sometimes called VENIPUNCTURE, which can also mean injection into the vein.

☐ CERTAIN VEINS are preferred in each KIND OF ANIMAL.

☐ For the RABBIT, use the MARGINAL EAR VEIN, large and easy to get at.

☐ For the CAT or DOG, use

- * the JUGULAR vein in the neck
- * a vein in the FRONT LEG, half way up
- * a vein in the HIND LEG, near the hock

☐ IV injections go in the HIND or the FRONT LEG of the DOG.

☐ The JUGULAR is used only for BLOOD WITHDRAWAL.

☐ For SHEEP or GOATS, the JUGULAR is used for both withdrawal and injection.

☐ For PRIMATES, the vein in the HIND LEG is used for both withdrawal and injection.

☐ For the PIG, a vein just above the breastbone and between the front legs, the ANTERIOR VENA CAVA, is used for collecting blood.

☐ But injection in the pig is done in an ear vein.

☐ For the CHICKEN, hold the bird on its back, use the vein on the underside of the wing, the ALAR VEIN, near the shoulder.

☐ For MICE and RATS, sometimes a TAIL VEIN is used.

☐ In the GUINEA PIG, a small vein in the EAR is used.

☐ On the whole, IV procedures with RODENTS are difficult because the VEINS are so SMALL.

☐ The most common method of bleeding a RODENT is HEART PUNCTURE.

☐ The animal is first given an ANESTHETIC.

☐ It is placed on its back on a RESTRAINING BOARD.

☐ The NEEDLE is inserted at about a 45° angle under the BREASTBONE, and into the HEART, from which blood is taken.

☐ This is done also with RABBITS and sometimes with DOGS that are going to be sacrificed.

☐ To obtain a SMALL AMOUNT of blood from a MOUSE, the procedure called BLEEDING FROM THE ORBIT is used.

☐ The ORBIT is the eye SOCKET.

☐ First ANESTHETIZE the mouse.

☐ Using a capillary tube, a small hollow glass tube, ROTATE it gently in the OUTER CORNER of the mouse's EYE.

☐ This will break some small blood vessels and BLOOD will flow into the TUBE.

☐ Another kind of INJECTION is called INTRADERMAL.

☐ The DERMIS is the thick part of the SKIN

☐ And an intradermal injection goes into the skin.

☐ The syringe is held PARALLEL to the skin surface so it doesn't go through.

☐ A SUBCUTANEOUS injection (known as "SUB Q") goes through the skin, generally the skin over the shoulders.

☐ The word subcutaneous means "under the skin".

☐ The syringe is held at about a 45o ANGLE to the skin.

☐ PULL BACK on the syringe once the needle is in to make sure that the needle is NOT in a VEIN.

☐ If it is in a vein, BLOOD will enter the body of the SYRINGE. Then the needle must be moved.

☐ An INTRAMUSCULAR (IM) injection goes into MUSCLE TISSUE, generally in the thigh area.

☐ The needle is held at a 90° ANGLE to the skin so it goes straight in.

☐ FEEL the muscle to gauge its thickness and STICK the needle about HALF WAY into the muscle.

☐ If the needle strikes BONE, pull it back to where it is in contact only with muscle.

☐ CHECK, as in subcutaneous injection, to make sure the needle is NOT in a VEIN.

☐ INTRAPERITONEAL (IP) injections go into the ABDOMINAL CAVITY.

☐ The ABDOMINAL SPACE in the middle of the body (the abdomen) is lined with a tissue called the PERITONEUM.

☐ The injection goes into this space.

☐ This is the kind of injection usually given to RODENTS. The animal is held head down, to permit its organs to move forward.

☐ CHECK, as before, to make sure the needle is NOT in a VEIN.

☐ To review:

- * intravenous - in the vein
- * intradermal - into the skin
- * subcutaneous - under the skin
- * intramuscular - in the muscle
- * intraperitoneal - into the abdomen (usually for rodents)

☐ For venipuncture:

- * in dog or cat - front leg, or jugular vein in neck, or thigh of hind leg
- * in monkey - hind leg
- * in sheep and goats - jugular vein in neck
- * in rabbits - ear vein
- * in pigs - anterior vena cava in chest
- * in poultry - alar vein in wing

Appendix to Lesson 25

PROCEDURES

- heart puncture
- venipuncture (tail, cephalic, femoral, saphenous, marginal, ear, or jugular vein)
- injection (intraperitoneal, intramuscular, intravenous, intradermal, subcutaneous)
- bleeding from the eye orbit
- tattooing and TB testing in the primate
- euthanasia
- anesthesia
- obtaining body temperature, pulse, and respiratory rate
- administering medicated feeds and liquids

There are different techniques for performing each of these procedures, depending on the species and the goal of the particular experiment. Knowing the animals is important. For example, blood can easily be obtained from the ear of a rabbit, but not from a mouse, or hamsters. Or if a small amount of blood is desired from the mouse, bleeding from the eye orbit is satisfactory. To obtain a large quantity of blood, however, a heart puncture is usually performed, under anesthesia.

Injections are given to the various species as follows:

Rodent: Intravenous injections can be administered in the tail. Warm the tail above a light bulb. Use a 25 to 27 gauge needle. Inject slowly into tail vein. In guinea pigs a 25 to 27 gauge needle is used and injections are attempted in the lateral ear vein or the saphenous vein. It is common in rodents to administer drugs in the abdoninal cavity. This is called intraperitoneal injection. The animal is placed in the operator's hand, belly side up. Generally, it is tilted so that the head is lower than the rear so as to move the intestines forward. An injection is then made near the umbilical site.

Rabbit: The easiest method of injecting a rabbit is to use the ear vein.

Cat and [illegible] method of injecting cats and dogs is to use the cephalic [illegible], a site also used for blood withdrawal. More common are subcutaneous (just under the skin) and intramuscular (into the muscle) injections. For the subcutaneous injection, the loose fold of skin at the shoulder is gathered, and the needle pushed under it. The intramuscular injection is generally given in the muscle of the upper part of the hind leg.

Non-human primate: The following injections are given in the non-human primates: subcutaneous, intramuscular, and saphenous.

Sheep and Goat: These are jugular, intramuscular, and subcutaneous.

Pig: Swine are injected intramuscularly and subcutaneously, and also in the ear vein.

Poultry: Inject at the alar [illegible].

For collecting blood ("bleeding"):

Rodent:

One of the common techniques for bleeding rodents is heart puncture. The animal is first anesthetized. He is then placed on his back on a restraining board. In mice a 1 - 2 ml syringe with a 25 - 27 gauge 3/4" or 1" needle is used. In rats 3/4" to 1" 24 - 26 gauge needles are used. The thorax is swabbed with disinfectant. The operator feels for the apex beat of the heart, just in front of the last breastbone. When the strongest area of the heart beat is felt the operator inserts the needle at a 45° angle toward the heart and blood is withdrawn.

In mice another bleeding technique is used, called bleeding from the orbit. This procedure should be performed with the animal under general anesthesia. The animal is grasped at the back of the neck and held securely to a flat surface. A capillary pipette is then introduced into the outer corner of the eye. It is rotated and gently passed around the bulb of the eye. Vessels are ruptured and the capillary tube will automatically fill with blood.

Other methods for removing blood samples from mice or rats include jugular venipuncture, decapitation, or tail or toe clipping under anesthesia.

Rabbit:

Blood collection is performed in the rabbit by means of heart puncture. The rabbit is either anesthetized or mesmerized and laid on his back. A 19 to 20 gauge 1 1/2" needle is inserted posterior to the breast bone at a 45° angle and the blood is withdrawn.

Another convenient way to remove samples of blood from a rabbit is use of the marginal ear vein. In this method the ear vein is rubbed with xylol followed with alcohol. This causes the vessels to become more dilated. Use a 22 gauge needle and insert it into the ear vein and gently withdraw the blood. Keep in mind that the marginal ear vein easily collapses. Therefore, blood has to be withdrawn slowly. An alternative is incision of the marginal ear vein. The area is shaved on the convex surface of the ear over the area of the marginal ear vein. It is cleaned with xylol followed with alcohol. The shaved area is then covered with grease and the vein incised. It is possible to collect up to 50 cc in this manner.

Dog and Cat:

Blood is commonly collected from the cephalic vein. The area over the vein which is on the anterior surface of the front leg is clipped. The assistant restrains the animal. Alcohol is applied to the area, a 22 gauge needle is inserted into the vein, and blood is withdrawn slowly. This can be performed without anesthetic.

The jugular vein is also appropriate for collecting blood samples. The area over the vein is clipped. The operator raises the animal's head and rotates it slightly. He places pressure on the lower part of the neck to interrupt blood flow in the vein. The vein is then located by the operator, alcohol is applied over the area, and a needle is inserted. This can be performed without anesthetic.

For heart puncture, the animal is anesthetized. An area is clipped over the 4th intercostal space. The operator palpates for the maximum area of heart beat and swabs the area with alcohol. A 19 gauge 2" needle is inserted and blood is withdrawn into either a syringe or a vacuum bottle.

Non-human Primate:
Blood can be collected from the femoral vein in primates in essentially the same manner as described for dogs.

The saphenous vein can also be used. However, the vein collapses very easily. This vein is located on the posterior aspect of the hind legs. It is readily seen when blood is interrupted by applying pressure high on the leg towards the posterior portion. The area over the vein is clipped; alcohol is swabbed over the vein. A 22 gauge 1" needle is inserted and the blood withdrawn slowly.

Blood can be obtained by heart puncture. The animal is anesthetized. It is laid on its back and the area over the 4th intercostal space is clipped on the left side along the sternum at the site of the strongest heart beat. Alcohol is swabbed on the area and a 2" 18 to 19 gauge needle is inserted. Blood is collected either into a syringe or vacuum bottle.

Sheep and Goat:
Blood is usually collected from the jugular vein. The area over the jugular vein is clipped and blood is interrupted at the thoracic inlet, that is, the area where the neck joins the thorax. The area over the jugular vein is swabbed with alcohol and blood is withdrawn by inserting an 18 gauge 1" needle into the vein.

Swine:
Restrain the animal by using a nasal snare. Swab the thoracic inlet with alcohol. Insert a 6" 19 gauge needle in the thoracic inlet, pointed at the opposite hip to draw blood from the anterior vena cava.

Fowl:
For alar venipuncture, no anesthetic is necessary. The bird is restrained on its side and the feathers are plucked in the area where the wings join the body. The alar vein is seen to run directly from the animal's thorax and to proceed under the skin along the underside of the wing. A 22 guage 1" needle can be used. Draw a blood sample.

For the rabbit:

* Venipuncture of the marginal ear vein
    . Use a rabbit box for this.
    . Hold the rabbit's ear with your thumb and index finger.
* Passing a stomach tube
    . Place the rabbit in a rabbit box.
* Heart puncture
    . This should be done under anesthesia. Or the rabbit can be mesmerized. This is done by placing the animal on its back with its eyes covered. The operator then gently strokes the rabbit's abdomen until it is completely relaxed. He then continues to keep its eyes covered until the procedure has been performed. At the end of the procedure, he can remove his hand from the eyes and the animal will generally respond by remaining motionless. This procedure will have to be demonstrated by a technician who is proficient in the art of mesmerizing rabbits.
* Restraint devices
    . Rabbit box or holder

For the cat or dog:

* Cephalic venipuncture
    . Set the animal on the table in a standing position.
    . Stand on the left side of the dog or cat, lean across it, and wrap your right forearm around its body, pulling the animal close to your body.
    . With your left arm, reach under and up around the animal's head so that your hand rests on the side of its neck. The animal will be resting against your chest.
    . Use your right hand to encircle the animal's front leg and apply pressure with your thumb. This will make the vein stand out. The palm of your hand is behind the animal's elbow. Release your thumb before the injection is made. Maintain a hold on the elbow.
* Intramuscular and subcutaneous injections
    . Use the same steps as for cephalic venipuncture.
* Venipuncture on hindleg.
    . The animal is restrained on its side or back.
    . One hand is used to hold its front legs and the forearm of this hand presses the head of the animal just behind the ear.
    . Pressure from the other forearm controls the animal's hindquarters and spreads the legs apart.
* Muzzling a dog
    . The technician restrains the animal for muzzling either by holding the neck loosely with both hands or by holding one arm around the body while the other steadies the head.
* Restraint devices
    . Cat bag (canvas bag)
    . Cat tube
    . Muzzle
    . Blanket or bath towel
    . Boxes or stocks

For the non-human primate:

- * Venipuncture (femoral, spahenous, jugular)
    - . These procedures are easier if the animal is sedated or anesthetized.
    - . The animal should be restrained on its back or side on the table if anesthesia is not used.
    - . Hold the animal's forearms firmly behind its back with one hand.
    - . Hold the legs at the ankles with the other hand and stretch the legs.
- * Injections (subcutaneous, intramuscular)
    - . Animal is restrained as for venipuncture.
- * Passing a stomach tube
    - . One hand holds the arms of animal firmly behind its back and the other hand steadies the head, holding it high for the insertion of the tube. For a small primate the legs are held between the legs of the person holding the animal. For larger primates a third person would restrain the legs.
- * Tuberculin skin tests
    - . The animal is held by its forearms with one hand; the other hand holds the head very still for work on the eyelids. (Usually the primates are sedated for this.)
- * Tattoo
    - . For this procedure, the animal is strapped to a tie board or sedated.
- * Restraint devices
    - . Tie board
    - . Cross board

For the pig:

- * Anterior vena cava venipuncture, intravenous injections to the ear veins, intramuscular and subcutaneous injections.
    - . Restraint for all of the above procedures is done by using a nasal snare. This is a noose that is looped around the pig's snout and pulled tight. It requires strength to hold a pig for a procedure using a snare.
    - . In another method, a rope can be used for restraint by pulling a loop into the pig's mouth and tightening it. The rope can be tied to a fixed object or the technician can pull on it. The animal will resist and this holds him steady enough for an injection.
- * Restraint devices
    - . Nasal snare
    - . Rope
    - . Bucket

For the sheep or goat:

- * Jugular venipuncture or passing a stomach tube
    - . Back the animal into a corner.
    - . Straddle the animal's back and hold him firmly between your knees.
    - . Use both hands to hold and steady the animal's head. Your left hand should grasp its neck at the base of the skull; your right hand should grasp its lower jaw.
- * Intramuscular or subcutaneous injections
    - . Back the animal into a corner and lay it on its right side by turning its head to the left and laying the animal down.

- . Kneel on the animal's left side.
- . Place your left hand under its jaw and your right hand over its haunch and around behind its thighs.
- . Do not try to stop it from moving by pulling on its horns or wool or by handling its head. These things will excite the animal. Simply keep a gentle pressure on the animal with your left hand to keep it in place.

For fowl:

- * Wing vein
  - . Restrain bird on back. Extend the wing.
- * Heart puncture
  - . Restrain as above or use a board for holding the bird.
- * Restraint devices
  - . Tie board
- * Jugular venipuncture
  - . Place the bird on its side on a table
  - . Hold its legs steady with your right hand.
  - . Pull the wing back away from the body with your left hand. The other wing lies under the bird's body.

PRACTICE EXERCISE

LESSON 25

INSTRUCTOR: AFTER THE STUDENTS HAVE VIEWED THE AUDIO-VISUAL DEMONSTRATION EXERCISE FOR LESSON 25, TAKE A COPY OF THE PRACTICE EXERCISE TO THE ROOM(S) IN WHICH THE PRACTICE EXERCISE WILL BE HELD.

DISCUSS AND SHOW EACH PART OF THE SYRINGE WITH EACH STUDENT, AND SHOW HOW IT IS ASSEMBLED.

POINT OUT THE DIFFERENT LENGTHS AND GAUGES OF NEEDLES AND THE DIFFERENT SIZES OF SYRINGES, DISCUSSING WHAT THE DIFFERENCES ARE FOR.

USING DRUG BOTTLES, WORK WITH EACH TECHNICIAN ON THE USE OF THE SYRINGE FOR BLOOD COLLECTION AND INJECTION.

DISCUSS AND DEMONSTRATE THE DIFFERENT TYPES OF INJECTION.

POINT OUT AND DISCUSS THE NORMAL BLOOD COLLECTION AND INJECTION SITES FOR EACH ANIMAL.

WORK WITH EACH STUDENT ON THE VARIOUS TYPES OF BLOOD COLLECTION AND INJECTION WITH EACH OF THE ANIMALS.

AS SOON AS YOU FEEL THAT THE STUDENTS HAVE LEARNED THE NECESSARY SKILLS FOR THIS LESSON, YOU CAN GO ON TO THE MASTERY EXERCISE. UNTIL THAT TIME, CONTINUE ALLOWING THEM TO PRACTICE, HELPING THEM AS NEEDED.

MASTERY EXERCISE

LESSON 25

INSTRUCTOR: AFTER THE STUDENTS HAVE COMPLETED THE PRACTICE EXERCISE FOR LESSON 25, TAKE A COPY OF THE MASTERY EXERCISE AND GO TO THE ROOM(S) IN WHICH THE MASTERY EXERCISE WILL BE HELD.

SAY "In this room we're going to perform various types of injection and blood collection on different animals. Please wait outside the room until I call you in, one at a time."

GO INTO THE ROOM WITH THE FIRST STUDENT. LEAVE THE REMAINING STUDENTS OUTSIDE THE ROOM.

SAY "Point to a 1-inch, 22 gauge needle. Point to (another length and gauge) needle. Point to (a third length and gauge) needle.

IF THE STUDENT GIVES A WRONG ANSWER, DON'T SAY ANYTHING RIGHT AWAY. WAIT FOR A MINUTE TO GIVE HIM A CHANCE TO CHANGE HIS ANSWER.

IF THE STUDENT STILL DOESN'T KNOW THE RIGHT ANSWER, REPEAT THE PRACTICE EXERCISE WITH HIM. THEN COME BACK TO THE MASTERY EXERCISE, TO MAKE SURE THAT HE HAS MASTERY OF THE SKILL BEFORE YOU GO ON.

WHEN THE STUDENT GIVES A RIGHT ANSWER, SAY "Good" OR "Right."

SAY "Point to a 5 cc syringe. Now point to (another size) syringe. Point to (a third size) syringe."

(ACT AS YOU DID EARLIER IF THE STUDENT GIVES A WRONG ANSWER.

POINT TO A SYRINGE, A NEEDLE AND A DRUG BOTTLE AND SAY "Take that syringe, attach that needle, and withdraw 2 cc from that drug bottle."

(FOR THIS STEP, AND FOR EACH OF THE ONES THAT FOLLOW, ACT AS YOU DID EARLIER IF THE STUDENT DOES SOMETHING THAT IS WRONG.)

IF AT ANY POINT IN THE SEQUENCES BELOW THE STUDENT BEGINS TO HANDLE THE ANIMAL IN A WAY THAT MAY BE DANGEROUS TO THE STUDENT OR PAINFUL TO THE ANIMAL, GENTLY STOP HIM. EXPLAIN WHAT MAY HAPPEN DOING IT THE WAY HE WAS, AND GO BACK TO THE PRACTICE EXERCISE.

HAVE THE STUDENT PERFORM THE FOLLOWING PROCEDURES:

"INJECT INTRAVENOUSLY 1/4 CC OF STERILE SALINE SOLUTION INTO THAT MOUSE'S TAIL."

"COLLECT BLOOD FROM THE ORBIT (OR HEART) OF THAT ANESTHETIZED MOUSE."

"INJECT 5 CC OF STERILE SALINE SOLUTION INTO THAT RABBIT'S MARGINAL EAR VEIN."

"COLLECT 1 CC OF BLOOD FROM THAT RABBIT'S MARGINAL EAR VEIN."

"INJECT 5 CC OF STERILE SALINE SOLUTION INTRAVENOUSLY INTO THAT CAT'S (OR DOG'S) CEPHALIC VEIN."

"INJECT 1 CC OF STERILE SALINE SOLUTION SUBCUTANEOUSLY ABOVE THAT CAT'S (OR DOG'S) SHOULDER."

"INJECT 1 CC OF STERILE SALINE SOLUTION INTRAMUSCULARLY INTO THAT CAT'S (OR DOG'S) HIND LEG."

"COLLECT 5 CC OF BLOOD FROM THAT SHEEP'S JUGULAR VEIN."

"COLLECT 5 CC OF BLOOD FROM THAT PIG'S ANTERIOR VENA CAVA."

"COLLECT 1 CC OF BLOOD FROM THAT HEN'S ALAR VEIN."

REPEAT THE EXERCISE FOR EACH OF THE REMAINING STUDENTS.

AS EACH STUDENT FINISHES CORRECTLY, SIGN HIS LESSON CERTIFICATE.

Instructor:

Before meeting with Students, do the following (check when done):

- ☐ Review the Practice and Mastery Exercises at the end of this Lesson.
- ☐ Review the A-V Lesson.
- ☐ Make notes regarding any facility differences (procedures that differ from those shown in the A-V presentation). Space is provided on the left-hand pages of this manual.
- ☐ Prepare an area for the Practice and Mastery sessions.

Only after you have done all of the above:

- ☐ Have the Student view the A-V as many times as he likes.
- ☐ Take the Student to the appropriate area so he can practice the skills described on the practice sheet.
- ☐ When you feel that the Student has mastered the material, take the Mastery Exercise sheet and follow directions exactly as written.

Lesson 26

SURGERY AND EUTHANASIA

SCHEDULE CHART

☐ VIEW Audio-visual Demonstration Exercise, summarized on pages 26-1 through 26-6, in Room ________. View it as many times as you want.

☐ MEET ________________ (Instructor) at __________ (time) on __________ (date) in ________________ (room and bldg.) for Practice and Mastery Exercises.

Instructor:

☐ Do animal technicians administer anesthetics in your facility?

☑ If they do, to which species and by which route?

☐ A TRANQUILIZER is used to make an animal, usually a monkey, easier to handle.

☐ A tranquilizer does NOT make the animal completely quiet. It does NOT keep it from feeling pain.

☐ An ANESTHETIC does put the animal to sleep for a procedure, like surgery.

☐ The animal that is given an anesthetic becomes unconscious and does not feel any pain.

☐ The laboratory animal technician does not administer the anesthetic, but he must help prepare the animal for surgery in other ways.

In addition:

Anesthesia is defined as the giving of a drug to an animal to put it in a controlled sleep for a given length of time.
While under anesthesia, the animal can be handled safely or operated on painlessly.
An inhalant anesthetic such as ether can be administered to a small animal by placing the animal in a clear glass jar with a false bottom. Under this is placed a ball of cotton soaked in the drug. When the animal is not moving and is breathing deeply and regularly, it is taken out of the jar. If it is left there, it will die of an overdose. See page 4 of this lesson for the use of anesthetics for euthanasia.
For larger animals (rabbit, cat, dog, sheep), an injection of anesthetic meant to last only a short time is given. When the animal is unconscious, a tube (endotracheal tube) from an anesthetic machine is passed into its windpipe (trachea). This tube carries anesthetic gas directly to the animal's lungs. This way the technician can have better control of the amount of anesthetic the animal is getting.
Some anesthetics are injected intravenously, directly into a vein. For very small animals, where it is difficult to hit the vein with the needle, an intraperitoneal injection (directly into the abdomen) is given.
Some drugs that act as anesthetics are injected into the muscles.
Some factors considered in deciding what dose to give the animal are:

- length of time the animal is to be unconscious
- animal's species
- its age
- its weight
- the route (place) of administration of the drug

Instructor:

How are animals prepared for surgery in your facility?

☐ The technician, on orders of the investigator or the supervisor, may HOLD BACK feed and water from an animal for 12 hours before surgery.

☐ He will see to it that the animal gets a chance to defecate and urinate **before** it goes to surgery.

☐ Using an electric CLIPPER, he might have to clip the animal's hair for 6 inches around [illegible] surgical area, the SITE where the incision is to be made.

☐ Then he will wash down the surgical site on the animal with antiseptic soap and scrub the site with gauze.

☐ After the surgical site is dry, he will take a sterile gauze SPONGE eith antiseptic solution on it.

☐ With the sponge and antiseptic, he starts from the CENTER of the site and makes a single stroke outward to the edge of the shaved area. He then discards the sponge.

☐ With another sterile gauze sponge dipped in the antiseptic, he makes another single stroke, being careful NOT to overlap the last stroke.

☐ He continues in this way until the whole area has been sponged with antiseptic, using a fresh sponge for each stroke.

☐ This makes the surgical site clean by washing away any bacteria. When this procedure is finished, the animal is ready.

Instructor:

☐ How is post-surgical care carried out in your facility?

☐ If the technician goes into the surgery area, he scrubs down first with soap.

☐ The surgery area is sterile, kept absolutely clean and free of germs.

☐ The technician must wear protective CLOTHING:

- a scrub suit
- foot covers
- a cap
- a face mask

☐ Because the surgery area is sterile, the technician must remember NOT to touch any of the equipment, or the site of the incision once it has been cleaned.

☐ On leaving the surgery area, the technician takes off the protective clothing and washes his hands again.

☐ When an animal comes back from surgery, it still is under the influence of anesthesia.

☐ Do NOT feed or water the animal until it is FULLY awake.

☐ Then it might get special soft feed or a lot of water.

☐ The technician must watch to make sure that the stitches don't come out and that the animal doesn't start to bleed.

Instructor:

☐ How is euthanasia performed in your facility?

☐ Some of the chemical anesthetics used for surgery can also be used to KILL animals painlessly.

☐ This painless killing is called EUTHANASIA.

☐ The animal is purposely given an overdose of anesthetic and it quickly and painlessly dies.

☐ It can be by injection.

☐ Large animals are mostly given an injection of a specially prepared solution.

☐ As with any drug, the correct dose must be given for best effect.

☐ This injection is given the same as any other IV injection.

☐ Small animals, such as rodents, are eutharized in a glass jar.

☐ A cotton ball or piece of gauze is soaked in chloroform or ether and put under the jar's false botton.

☐ The rodent is then put into the jar and the lid is put on.

☐ The animal does not come into contact with the cotton or gauze.

In addition:

Euthanasia is used

* to ease pain and suffering

* because the animal is no longer of any use

* if an experiment calls for it

Euthanasia is never performed in front of other animals or by an untrained person.

See the end of this lesson for a table outlining euthanasia methods and agents.

- ☐ ETHER and CHLOROFORM must both be handled with extreme care.
- ☐ Ether is highly explosive and is stored only in tightly covered containers in de-sparked refrigerators.
- ☐ Such refrigerators should be marked so there is no doubt about which one to use.
- ☐ Chloroform should NEVER be stored or even used in an animal room.
- ☐ Chloroform is very toxic (poisonous) to animals.

In addition:

Ether should be used only in rooms with flooring that will not permit electric sparks.

Exposure of ether to air makes it more explosive.

Instructor:

☐ How are dead animals reported in your facility?

☐ How are they disposed of?

☐ An animal that has stopped breathing for 15 minutes can be considered DEAD.

☐ Two further signs of death are:

  * no heartbeat can be felt
  * the animal's eyes do not blink when they are touched

☐ The dead animal is put into a dead animal bag.

☐ The bag is labeled, as it would be for a diseased animal.

☐ The dead animal bag is put into the correct refrigerator.

☐ A MORTALITY REPORT is filled out to be turned into the office.

☐ Euthanasia procedures take experience and familiarity with the animals if they are to be done right.

☐ The technician should be used to performing restraint and injection procedures before he attempts euthanasia.

ANIMAL EUTHANASIA METHODS

SPECIES	FEW IN NUMBER	MANY
Mouse, Rat, Hamster and Guinea Pig	(a) Chloroform jar; ether jar (b) Intraperitoneal (I.P.) sodium pentobarbital (c) Cervical vertebrae disarticulation (d) Stunning	(a) Chloroform chamber (b) Carbon dioxide chamber
Rabbit	(a) Intravenous (I.V.) barbiturate (b) Stunning followed by thoractomy or exsanguination	I.V. barbiturate
Birds	(a) Cervical vertebrae disarticulation (b) I.P. barbiturate	(a) Chloroform chamber (b) Carbon dioxide chamber
Young kittens, young pups	I.P. barbiturate followed with intracardial (I.C.) once anesthetized.	Same as few
Unmanageable adult cats and dogs	Intramuscular (I.M.) sedative or tranquilizer followed by I.V. barbiturate.	Same as few
Manageable cats and dogs	I.V. barbiturate	Same as few
Sheep	I.V. barbiturate followed by thoractomy or exsanguination.	Same as few

Remarks:

(1) Ether is not to be used (Flammable and explosive).
(2) Chloroform is not to be used in any room which houses animals.
(3) Never overcrowd a chloroform or carbon dioxide chamber.
(4) Animals should not come into direct contact with chloroform.

EUTHANASIA (Chemical Agents)	SAFETY OF PERSONNEL	EASE OF PERFORMANCE	RAPIDITY	EFFICIENCY	SPECIES	REMARKS
Ether	Flammable and explosive	Easily performed in closed container or chamber	Slow onset of anesthesia	Highly effective provided subject is sufficiently exposed	Young cats & dogs, birds, rodents and other small species	Not to be used in any animal room
Chloroform	Non-flammable and non-explosive; chronic exposure of animals or personnel is dangerous because of potential liver or kidney damage	Same as ether	Rapid onset of anesthesia	Same as ether	Same as ether	Same as with ether. Animal should not come into direct contact with chloroform
Sodium pentobarbital	Injectable preparations	Requires manual dexterity, familiarity with I.V. technique and proper technique of restraint	Immediate effect I.V. Slow effect I.P.	Highly efficient with rapid injection of 3 times anesthetic dose	Dogs, cats, monkeys, rabbits, sheep, goats, I.V. Young cats, and dogs, birds, rodents and other small animals I.P.	Drug of choice. Commercial preparations are available Aggressive animals may require a tranquilizer or sedative for proper restraint of I.V. technique Farm animals with thoractomy
Carbon dioxide	Non-flammable, non-explosive, odorless	Requires properly designed equipment	For rapid effect requires high concentrations of 30% and above	Incomplete filling of chamber or improper placement of animals may permit survival	Mice, rats guinea pigs, rabbits, hamsters	Euthanasia of large numbers

EUTHANASIA (PHYSICAL AGENTS)	EASE OF PERFORMANCE	SPECIES	REMARKS
Cervical vertebrae disarticulation	Requires skillful technique	Mice, birds	The physical methods are more difficult, less esthetic, time consuming and can be dangerous to attending personnel.
Stunning by crushing the skull	Requires skillful technique	Mice, rabbits	Should be immediately followed with thoractomy or exsanguination
Decapitate	Requires technique and guillotine equipment.	Rats	Animal must be anesthetized before decapitation.

PRACTICE EXERCISE

LESSON 26

INSTRUCTOR: AFTER THE STUDENTS HAVE VIEWED THE AUDIO-VISUAL DEMONSTRATION EXERCISE FOR LESSON 26, TAKE A COPY OF THE PRACTICE EXERCISE TO THE ROOM(S) IN WHICH THE PRACTICE EXERCISE WILL BE HELD.

SHOW EACH STUDENT HOW TO TELL A DESPARKED FROM A NON-DESPARKED REFRIGERATOR. EXPLAIN WHY A SUBSTANCE SUCH AS ETHER MUST BE KEPT IN A DESPARKED REFRIGERATOR.

DEMONSTRATE AND DISCUSS HOW TO PREPARE EACH OF THE ANIMALS IN THIS LESSON FOR SURGERY.

DEMONSTRATE AND DISCUSS YOUR FACILITY'S METHOD OF PERFORMING EUTHANASIA ON THE DIFFERENT TYPES OF ANIMALS. MAKE CERTAIN THAT THE STUDENT CAN DETERMINE WHEN THE ANIMAL IS DEAD, AND THAT HE UNDERSTANDS THE IMPORTANCE OF EUTHANASIA, METHODS BEING QUICK, SURE, AND PAINLESS.

AS SOON AS YOU FEEL THAT THE STUDENTS HAVE LEARNED THE NECESSARY SKILLS FOR THIS LESSON, YOU CAN GO ON TO THE MASTERY EXERCISE. UNTIL THAT TIME, CONTINUE ALLOWING THEM TO PRACTICE, HELPING THEM AS NEEDED.

MASTERY EXERCISE

LESSON 26

INSTRUCTOR: AFTER THE STUDENTS HAVE COMPLETED THE PRACTICE EXERCISE FOR LESSON 26, TAKE A COPY OF THE MASTERY EXERCISE AND GO TO THE ROOM(S) IN WHICH THE MASTERY EXERCISE WILL BE HELD.

SAY "WE'RE GOING TO PREPARE ANIMALS FOR SURGERY AND TO PERFORM EUTHANASIA. PLEASE WAIT OUTSIDE THE ROOM UNTIL I CALL YOU IN, ONE AT A TIME."

GO INTO THE ROOM WITH THE FIRST STUDENT. LEAVE THE REMAINING STUDENTS OUTSIDE THE ROOM.

SHOW THE STUDENT BOTH A DESPARKED AND A NON-DESPARKED REFRIGERATOR AND SAY "WHICH OF THESE IS DESPARKED? IN WHICH ONE COULD YOU STORE ETHER?"

IF THE STUDENT GIVES AN INCORRECT ANSWER, DON'T SAY ANYTHING RIGHT AWAY. WAIT FOR A MINUTE TO GIVE HIM A CHANCE TO CHANGE HIS ANSWER.

IF HE STILL DOESN'T KNOW THE RIGHT ANSWER, REPEAT THE PRACTICE EXERCISE WITH HIM. THEN COME BACK TO THE MASTERY EXERCISE, TO MAKE SURE THAT HE HAS MASTERY OF THE SKILL BEFORE YOU GO ON.

WHEN THE STUDENT GIVES A RIGHT ANSWER, SAY "GOOD" OR "RIGHT."

SAY "TAKE THIS ANESTHETIZED CAT (OR DOG) AND PREPARE IT FOR ABDOMINAL SURGERY."

(ACT AS YOU DID EARLIER IF THE STUDENT DOES SOMETHING INCORRECTLY.)

THEN SAY "NOW TAKE THIS ANIMAL (ANY TYPE COVERED IN THE LESSON) AND PERFORM EUTHANASIA IN THE WAY THAT IT'S NORMALLY DONE IN THE FACILITY. DISPOSE OF THE BODY AS SOON AS YOU HAVE DETERMINED THAT THE ANIMAL IS DEAD."

(ACT AS YOU DID EARLIER IF THE STUDENT DOES SOMETHING THAT

IS INCORRECT.)

IF AT ANY POINT IN THE ABOVE SEQUENCE THE STUDENT BEGINS TO HANDLE THE ANIMAL IN A WAY THAT MAY BE DANGEROUS TO THE STUDENT OR PAINFUL TO THE ANIMAL, GENTLY STOP HIM. EXPLAIN WHAT MAY HAPPEN DOING IT THE WAY HE WAS, AND GO BACK TO THE PRACTICE EXERCISE.

REPEAT THE EXERCISE WITH EACH OF THE REMAINING STUDENTS.

AS EACH STUDENT FINISHES CORRECTLY, SIGN HIS LESSON CERTIFICATE.

Instructor:

Before meeting with Students, do the following (check when done):

- ☐ Review the Practice and Mastery Exercises at the end of this Lesson.
- ☐ Review the A-V Lesson.
- ☐ Make notes regarding any facility differences (procedures that differ from those shown in the A-V presentation). Space is provided on the left-hand pages of this manual.
- ☐ Prepare an area for the Practice and Mastery sessions.

Only after you have done all of the above:

- ☐ Have the Student view the A-V as many times as he likes.
- ☐ Take the Student to the appropriate area so he can practice the skills described on the practice sheet.
- ☐ When you feel that the Student has mastered the material, take the Mastery Exercise sheet and follow directions exactly as written.

Le[illegible]n 27

VITAL SIGNS

SCHEDULE CHART

☐ VIEW Audio-visual Demonstration Exercise, summarized on pages 27-1 through 27-6 , in Room __________. View it as many times as you want.

☐ MEET ____________________ at __________ on __________
Instructor time date

in ____________________ for Practice and Mastery
room and bldg.

Exercises.

☐ The veterinarian will ask the technician to do certain procedures:

- * Finding out an animal's temperature
- * Finding out an animal's pulse rate
- * Finding out an animal's respiration rate
- * Collecting samples of an animal's feces
- * Collecting samples of an animal's urine

☐ The vet uses information from these procedures to tell what is wrong with an animal, what is going on inside an animal.

☐ A cat's temperature, for example, is taken with a THERMOMETER.

☐ The thermometer used is a rectal one, not an oral (mouth) thermometer.

☐ Obviously an animal can't be expected to hold a thermometer under its tongue for three minutes.

☐ Therefore there are thermometers of different sizes to be inserted into the animal's rectum.

☐ Select the right size thermometer, large or small, according to the animal whose temperature is to be taken - in this example, a cat.

☐ SHAKE down the thermometer, bringing the mercury inside it below the marking for the normal temperature of that kind of animal.

☐ For example, for dogs and cats, normal temperature is 101.5 degrees Fahrenheit (38.3° C).

☐ Shake the thermometer down so the mercury line is even with the arrow marking normal human temperature - 98.6° F. (37° C) - which is below normal temperature for the cat.

☐ Look for the silver line of the mercury inside the glass, rolling the thermometer slightly in your fingers if you don't see the mercury clearly.

☐ The bulb (silver) end of the thermometer is lubricated with petroleum jelly or water-soluble lubricant before it is inserted.

☐ One technician holds the cat while the other slowly inserts the silver end of the thermometer into the cat's rectum.

☐ The cat can be either standing or in a crouched position.

☐ Push the thermometer in about two inches for an adult cat.

☐ For a dog the distance is about three inches; for a sheep, goat, or pig, about three or four inches.

☐ Leave the thermometer in for at least two minutes.

☐ Keep your hand on the thermometer so it isn't pushed out.

☐ Then remove the thermometer slowly.

☐ Wipe it off with gauze.

☐ Now read the mark on the thermometer that the line of mercury is opposite and write it down so you don't forget it.

☐ If the mercury line is between marks, estimate what fraction of a degree it is above the LOWER mark.

☐ Then wash the thermometer in an antiseptic solution.

☐ Store the thermometer, bulb end down, in a jar containing antiseptic solution, making sure that cotton or layers of gauze are on the bottom to keep the ends of the thermometers from breaking.

In addition:

Be sure to note whether the reading is in Fahrenheit (F) or Centigrade (C) degrees.

☐ The PULSE rate is just the number of times the heart beats in a minute.

☐ As you count the beats, use the second hand of your watch or clock to measure one minute.

☐ For dogs or cats, the easiest place to feel the pulse is the artery on the inside of the thigh, the same place an IV injection is given.

☐ But the pulse is felt in an artery, while an IV injection is made into a vein.

☐ Another way is to listen to the heartbeat with a STETHOSCOPE.

☐ With the ear pieces in your ears, hold the instrument to the animal's chest.

☐ The heartbeat will be loud enough to hear clearly.

☐ For farm animals, use the stethoscope.

☐ Count the number of beats in one minute.

In addition:

For rodents, count the pulse rate, if possible, by touching the animal's chest (thorax) and feeling the heartbeat. But the rate in some rodents may be too fast to count.

☐ The RESPIRATORY rate is the number of times an animal breathes in one minute.

☐ Watch the animal's chest to see how many times it breathes in (or out) in a minute, using the second hand of your watch to count the minute.

☐ In small animals or panting dogs, the rate may be too fast to count.

☐ Wait for the animal to calm down before counting its breaths.

☐ The vet can tell a lot about an animal's condition by examining its FECES or URINE.

☐ So the technician has to know how to collect samples that the veterinarian can use.

☐ The best way to collect a urine sample is with a metabolism cage.

☐ If there is only one animal to a cage, you do NOT need a metabolism cage to collect fecal samples; any type of cage will do.

☐ The sample is taken directly from feces on the cage floor.

☐ Take about a tablespoon of the feces that looks most recent, place it in a fecal container, and hand it in to the laboratory right away for refrigeration.

☐ For animals NOT kept in cages by themselves, one way to collect a fecal sample is to put each animal in a cage by itself overnight.

☐ By the next morning there should be enough on the cage floor for a fecal sample.

In addition:

In taking fecal samples, wear disposable gloves.

Use a tongue depressor to pick up the feces.

For large species, a urinary catheter is usually used to collect a urine sample.

NORMAL RANGE OF TEMPERATURE, PULSE, AND RESPIRATION IN LABORATORY ANIMALS

	Rectal Temperature		Heart Rate Per Minute	Respirations Per Minute
	°F	°C		
Mouse	98-101	36.7-38.3	300-750	90-220
Rat	99.5-100.6	37.5-38.1	350-400	80-110
Hamster	101-103	38.3-39.4	300-500	35-120
Guinea Pig	102-104	38.9-40	150-160	110-150
Rabbit	102-103.5	38.9-39.7	120-300	35-65
Rhesus Monkey	101-102	38.3-38.9	150-300	40-65
Dog	101-102	38.3-38.9	65-125	10-35
Cat	101-102	38.3-38.9	110-140	20-30
Sheep	101-103	38.3-39.4	70-80	30-65
Goat	101-103	38.3-39.4	70-90	12-35
Pig	101.5-102.5	38.6-39.2	60-75	45-75
Chicken	103-104	39.4-40	170-450	18-35

Source: Collins, George R. 1972. Syllabus for the Laboratory Animal Technologist. Joliet, Ill.: American Association for Laboratory Animal Science, pages 440-445.

PRACTICE EXERCISE

LESSON 27

INSTRUCTOR: AFTER THE STUDENTS HAVE VIEWED THE AUDIO-VISUAL DEMONSTRATION EXERCISE FOR LESSON 27, TAKE A COPY OF THE PRACTICE EXERCISE TO THE ROOM(S) IN WHICH THE PRACTICE EXERCISE WILL BE HELD.

SHOW EACH STUDENT HOW TO TAKE AND RECORD TEMPERATURE FOR THE VARIOUS ANIMALS. THIS INCLUDES SHAKING DOWN AND LUBRICATING THE THERMOMETER.

SHOW HOW TO COMPARE THE ANIMAL'S TEMPERATURE WITH THE CHART ON PAGE 27- OF THE TRAINING MANUAL TO DETERMINE IF ITS TEMPERATURE IS NORMAL OR NOT.

DEMONSTRATE HOW TO TAKE AND RECORD PULDE RATE AND RESPIRATORY RATE.

DISCUSS AND DEMONSTRATE THE WAY TO COLLECT AND LABEL FECES AND URINE FROM A METABOLISM CAGE. EXPLAIN THE USE OF THESE WASTE PRODUCTS AS INDICATORS OF HEALTH.

AS SOON AS YOU FEEL THAT THE STUDENTS HAVE LEARNED THE NECESSARY SKILLS FOR THIS LESSON, YOU CAN GO ON TO THE MASTERY EXERCISE. UNTIL THAT TIME, CONTINUE ALLOWING THEM TO PRACTICE, HELPING THEM AS NEEDED.

MASTERY EXERCISE

LESSON 27

INSTRUCTOR: AFTER THE STUDENTS HAVE COMPLETED THE PRACTICE EXERCISE FOR LESSON 27, TAKE A COPY OF THE MASTERY EXERCISE AND GO TO THE ROOM(S) IN WHICH THE MASTERY EXERCISE WILL BE HELD.

SAY "WE'RE GOING TO RECORD SOME TYPES OF INFORMATION ABOUT ANIMALS THAT ARE USED AS INDICATORS OF THEIR HEALTH. THEY'RE CALLED VITAL SIGNS. PLEASE WAIT OUTSIDE THE ROOM UNTIL I CALL YOU IN, ONE AT A TIME."

GO INTO THE ROOM WITH THE FIRST STUDENT. LEAVE THE REMAINING STUDENTS OUTSIDE THE DOOR.

SAY "TAKE THE TEMPERATURE OF THIS CAT, THIS DOG, AND THIS SHEEP. RECORD THESE TEMPERATURES AND TELL ME IF THEY ARE NORMAL OR NOT. YOU MAY CHECK THE CHART OF PAGE 27- TO SEE IF THEY'RE NORMAL."

IF THE STUDENT DOES SOMETHING INCORRECTLY OR GIVES A WRONG ANSWER DON'T SAY ANYTHING RIGHT AWAY. WAIT FOR A MINUTE TO GIVE HIM A CHANCE TO CHANGE HIS ANSWER.

IF HE STILL DOESN'T KNOW THE RIGHT ANSWER, REPEAT THE PRACTICE EXERCISE WITH HIM. THEN COME BACK TO THE MASTERY EXERCISE, TO MAKE SURE THAT HE HAS MASTERY OF THE SKILL BEFORE YOU GO ON.

WHEN THE STUDENT GIVES A RIGHT ANSWER, SAY "GOOD" OR "RIGHT."

SAY "NOW MEASURE AND RECORD THE PULSE RATE AND RESPIRATORY RATE FOR THE DOG AND THE SHEEP."

(ACT AS YOU DID EARLIER IF THE STUDENT DOES SOMETHING WRONG OR GIVES AN INCORRECT ANSWER.)

SAY "COLLECT THE URINE AND FECES FROM THAT METABOLISM CAGE. PLACE THEM IN THE PROPER CONTAINERS AND LABEL THEM."

(ACT AS YOU DID EARLIER IF THE STUDENT DOES SOMETHING WRONG

OR GIVES AN INCORRECT ANSWER.)

AS EACH STUDENT FINISHES CORRECTLY, SIGN HIS LESSON CERTIFICATE.

Instructor:

Before meeting with Students, do the following (check when done):

- ☐ Review the Practice and Mastery Exercises at the end of this Lesson.
- ☐ Review the A-V Lesson.
- ☐ Make notes regarding any facility differences (procedures that differ from those shown in the A-V presentation). Space is provided on the left-hand pages of this manual.
- ☐ Prepare an area for the Practice and Mastery sessions.

Only after you have done all of the above:

- ☐ Have the Student view the A-V as many times as he likes.
- ☐ Take the Student to the appropriate area so he can practice the skills described on the practice sheet.
- ☐ When you feel that the Student has mastered the material, take the Mastery Exercise sheet and follow directions exactly as written.

Lesson 28

RECEIVING AND SHIPPING RODENTS AND RABBITS

SCHEDULE CHART

☐ VIEW Audio-visual Demonstration Exercise, summarized on pages 28-1 through 28-10, in Room __________. View it as many times as you want.

☐ MEET ____________________ at __________ on __________
Instructor time date

in ____________________________ for Practice and Mastery Exercises.
room and bldg.

Instructor:

☐ What is the process for receiving rodents and rabbits in you facility?

☐ Smaller animals usually arrive at the animal facility in cardboard or wooden boxes.

☐ Large ones come right off the delivery trucks.

Putting the animals in the proper rooms is only part of the receiving process.

☐ Rodents and rabbits arrive in cartons say once a week.

☐ The supervisor decides beforehand where the new animals will go.

☐ He tells the technician how many cages, of what kind, will be needed.

☐ The cages are brought to the animal room before the animals get there.

☐ Bedding is placed in them, or liners under them, depending on the kind of cage.

☐ Feed and water may be put out before the animals are housed, or this may be done after they come.

☐ A cage card, with animal identification on it, is placed in the cage card holder on each cage.

In addition:

Sometimes animals are put in quarantine when they arrive. This means that they are kept apart from the other animals for a period of observation.

☐ The cage card is filled out by the technician or by the business office.

☐ The account number will be on the order form, which is at the business office.

☐ No matter who fills out the card, it is the technician who should see to it that the card is put on the cage.

☐ He makes sure that the right animal gets into that cage.

☐ He may have to weigh and sex the animals, depending in part on what kind of animal is being received.

In addition:

If the office fills out the cage cards, they should be delivered to the technician who is preparing the cages.

Instructor:

☐ How are incorrect shipments handled in your facility?

☐ When the cages in the animal room are ready for the animals, the shipment can be picked up from the receiving area.

☐ A copy of the order form should be checked against the actual shipment.

☐ The box should have the number of animals marked on it.

☐ The shipping container for small rodents should also show their birthdate, their sex, and their weight. These should be checked against the order.

☐ It is important that the facility gets exactly the animals that the investigator wants.

☐ If there is anything in the order that is not correct, that does not match the order form, it should be reported to the office.

☐ If there is something incorrect, the animals may be sent back, or the investigator (or maybe another investigator) may be able to use them anyway.

☐ The business office will check this out.

☐ The crates or boxes are NOT opened in the receiving area.

☐ The boxes should be stacked on a low-bed truck.

☐ Note the condition of each box as this is done.

☐ If any is damaged, that has to be reported.

☐ The low-bed truck is pushed into the room where the animals are to be caged.

☐ It is not to be left in a hallway or left, even for a short time, in any other animal room.

In addition:

In taking the newly arrived animals to the room, follow the proper traffic pattern.

Do not leave the animals in the open air, or where fumes can reach them, or where it may get very cold or very warm.

☐ Once the boxes are in the animal room, they can be opened.

☐ Use pliers or a staple remover to get staples out of wire mesh.

☐ Wear gloves to protect against the wire edge, splinters, or nails.

☐ If the container is a cardboard box, it should open easily.

☐ Count the number of animals in the box. Check to see that the number matches the number on the label on the box.

☐ For rabbits, this is easy; usually there is only one.

☐ For mice, often there are so many that the counting may have to be done as the animals are put in their cages.

☐ It should not be necessary to sex mice, because the whole box should be the same sex. But check a few to make sure.

☐ As the animals are put into the cages, one by one, check each one's physical condition briefly.

☐ Usually the animals are healthy.

☐ If a sick, injured, or dead animal is found, set it aside for the vet to look at.

☐ Check the eyes; they might be closed. The animal might be paralyzed. The animal might not move right because of an injury.

☐ Put a dead animal in a bag and report it. The vet or an investigator will want to look at it.

In addition:

In opening a wooden box, set aside half the container's top. When mice are shipped, the vendor may sometimes ship one or two extra. When ready to open the shipping container, place a cage on a table cart next to the container. Lift the animals one by one from the container to the cage. If suspended cages are being used, leave the cage on the rack and transfer the animal directly to it, then slide it all the way back. With shoebox cages, make sure that the top is replaced firmly, with all corners secure, then replace it on the rack. With front-opening cages, close the door securely.

Instructor:

☐ How are rodents and rabbits identified in your facility?

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☐ Federal law requires a minimum amount of space for each animal, so the number of animals that can go in a cage is limited.

☐ The number depends on the kind of cage and what the investigator wants.

☐ He may want each animal housed by itself.

☐ If there are a lot to go in one cage, they may have to be marked for identification.

☐ There are different ways to do this.

☐ An EAR PUNCH that makes a hole in the ear may be used.

☐ The hole, or notch, is made in a specific part of the ear.

☐ Each animal gets a hole, or holes, in a different part of the ear so it can be told apart from any other animal.

☐ No two animals get the same mark in the same place.

☐ The marks are like numbers and are placed according to a code so each animal gets a different number.

☐ Such identification is usually only for breeding colonies or for long-term studies, so it isn't done often.

☐ The various ways to mark rodents are:

* mouse or rat - stain (on back); tattoo (on ear); ear punch; ear tag; toe clip
* guinea pig - stain (on back or head); ear clip; ear stud or ear punch
* hamster - tattoo (on ear); ear punch
* rabbit - stain (on back); tattoo (on ear); ear tag or clip; ear stud

☐ A short-term way to identify white rats and mice is by putting a stain or dye on their backs to tell them apart.

☐ The dye comes off before long and needs to be checked about twice a week.

☐ Guinea pigs are easier to tell apart because of their natural markings.

☐ But the ear punch or staining might be used for guinea pigs too.

☐ Rabbits can be stained but their big ears can NOT be punched.

☐ If a permanent mark is needed for a rabbit, an ear tag or a tattoo in the ear would be used.

In addition:

Colors or dyes commonly used are:

yellow - saturated picric acid or chrysoidin
red - fuchsin or basic carbol
violet - methyl violet or gentian violet
green - brilliant green or ethyl green
blue - trypan blue

☐ When all the animals have been inspected and housed, the shipping container can be removed from the room on the low-bed truck.

☐ The containers can't be used again so they get incinerated like dirty bedding or disposable clothing.

☐ The floor of the room should now be swept to get rid of any bedding that has been spilled.

☐ Once the number of new animals has been added to the daily inventory, the receiving process for small animals is complete.

In addition:

Make sure the table cart is wiped off and returned to where it belongs.

☐ SHIPPING animals from the facility does not happen very often.

☐ To ship animals, get a clean, empty shipping container of the proper kind from the storeroom.

☐ The container will be the same as or similar to the container the animals came in.

☐ The reason for this is that shipping animals is covered by federal and, usually, state laws, like those regulating caging.

☐ The container has to be durable, well ventilated, and able to protect the animals from the weather elements like cold and rain.

☐ Shipping containers are, after all, like temporary cages, and they should be escape-proof too.

☐ If a good shipping container is used, and the animals are packed correctly, the animals will get where they are going in good shape.

☐ First, a couple of inches of bedding are put in the box, to absorb moisture and provide warmth for the animals.

☐ For rabbits, straw is sometimes used.

☐ Feed and water containers are NOT put into the shipping carton.

☐ The animals are fed before they are shipped.

☐ A few dry pellets, and a potato for moisture, may be put into the container.

☐ Double check to make sure that the right animals have been put in the shipping container.

☐ If something is wrong with the animals, tell the vet. Unhealthy animals should not be shipped.

☐ Recheck the condition of the container.

☐ Make sure the box is tightly closed to prevent escape of the animals.

☐ The box must be marked so it doesn't come off, with

- number of animals
- their birthdate
- their sex
- their weight

☐ A mailing label with the full name and address the box is going to, as well as the name and address of your own facility (the shipper), is put on the container.

☐ Get the label from the office, as well as any other special signs, like "Rush - Live Animals" or "Do Not Open".

☐ The shipment is now ready.

☐ The animals should not sit around too long before shipment, so the box is taken directly to the pickup area.

☐ Notify the supervisor or the vet that the animals are ready to go.

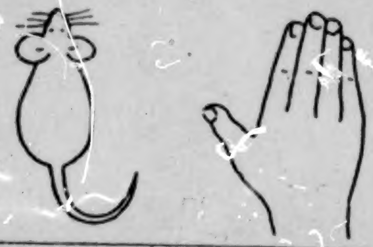
☐ The supervisor has a copy of the shipping regulations and can explain why the regulations are needed and the exact procedure to follow.

EAR PUNCH IDENTIFICATION METHOD FOR THE MOUSE

(#1—#399)

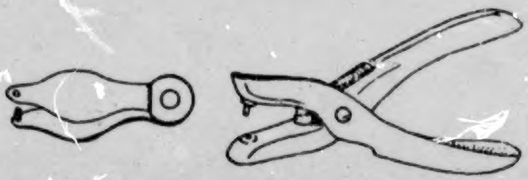
DISCUSSION:

In order to establish (in your mind) which is the right or left ear of the mouse be sure that the animal is belly down and is facing in the same direction you are facing.



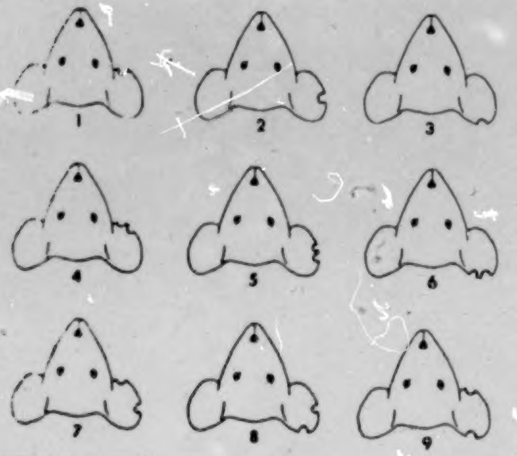
MATERIALS:

1. Ear punch
2. Ether
3. Ether anesthesia jar
4. A graphic numbering system

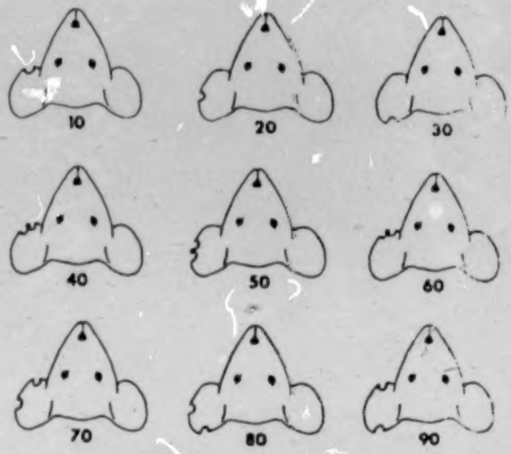


MARKING OF ANIMALS:

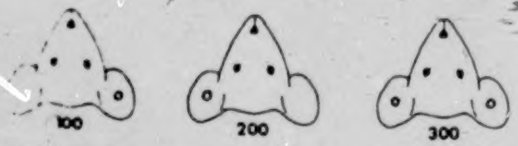
Use right ear to punch numbers (#1—#9)



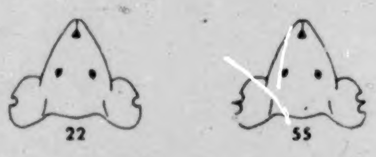
Use left ear to punch #10, #20, #30, #40, #50, #60, #70, #80, and #90



numbers (#100—#200, #300)



EXAMPLES:



PROCEDURE:

Place anesthetized animal belly down so that his right side is your right side and then proceed quickly to punch in the required markings. Use an ear punch that is sharp so that it will not bruise the ear.

PRACTICE EXERCISE

LESSON 28

INSTRUCTOR: AFTER THE STUDENTS HAVE VIEWED THE AUDIO-VISUAL DEMONSTRATION EXERCISE FOR LESSON 28, TAKE A COPY OF THE PRACTICE EXERCISE TO THE ROOM(S) IN WHICH THE PRACTICE EXERCISE WILL BE HELD.

SHOW EACH STUDENT THE ORDER FORM. EXPLAIN ITS USE AND SHOW HOW TO FILL IT OUT, CHECKING IT AGAINST A SHIPMENT OF RODENTS AND RABBITS.

DISCUSS AND DEMONSTRATE THE METHOD OF PROCESSING THE RODENTS AND RABBITS, INCLUDING HOW TO FILL OUT THE NECESSARY FORMS AND CARDS AND HOW TO FIND OUT WHERE INCOMING ANIMALS ARE TO BE HOUSED.

DEMONSTRATE EACH OF THE VARIOUS METHODS OF IDENTIFICATION USED ON RODENTS AND RABBITS IN YOUR FACILITY, INCLUDING EAR PUNCH, DYE, EAR TAG, RECORDING NATURAL COLORS, AND TATTOOING. WORK WITH EACH STUDENT ON THE USE OF THE TATTOOING MACHINE.

AS SOON AS YOU FEEL THAT THE STUDENTS HAVE LEARNED THE NECESSARY SKILLS FOR THIS LESSON, YOU CAN GO ON TO THE MASTERY EXERCISE. UNTIL THAT TIME, CONTINUE ALLOWING THEM TO PRACTICE, HELPING THEM AS NEEDED.

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MASTERY EXERCISE

LESSON 28

INSTRUCTOR: AFTER THE STUDENTS HAVE COMPLETED THE PRACTICE EXERCISE FOR LESSON 28, TAKE A COPY OF THE MASTERY EXERCISE AND GO TO THE ROOM(S) IN WHICH THE MASTERY EXERCISE WILL BE HELD.

SAY "We're going to check out and process an incoming shipment of rodents and rabbits. Please wait outside the door until I call you in, one at a time."

GO INTO THE ROOM WITH THE FIRST STUDENT. • LEAVE THE REMAINING STUDENTS OUTSIDE THE ROOM.

GIVE THE STUDENT AN ORDER FORM AND SAY "Please check that shipment of animals against this form. Check for species, number, sex, age, and weight. Fill out the form to match the shipment."

IF THE STUDENT SHOULD DO SOMETHING INCORRECTLY, DON'T SAY ANYTHING RIGHT AWAY. WAIT FOR A MINUTE TO GIVE HIM A CHANCE TO CHANGE HIS ANSWER.

IF HE STILL DOESN'T KNOW THE RIGHT ANSWER, REPEAT THE PRACTICE EXERCISE WITH HIM. THEN COME BACK TO THE MASTERY EXERCISE TO MAKE SURE THAT HE HAS MASTERY OF THE SKILL BEFORE YOU GO ON.

WHEN THE STUDENT GIVES A RIGHT ANSWER, SAY "Good" OR "right."

POINT TO AN INCOMING GROUP OF RODENTS OR RABBITS AND SAY "Find out where these are to be house and prepare cages for them there."

(ACT AS YOU DID EARLIER IF THE STUDENT DOES SOMETHING INCORRECTLY.)

THEN ASK THE STUDENT TO IDENTIFY ONE RODENT OR RABBIT BY EACH OF THE IDENTIFICATION METHODS USED IN YOUR FACILITY, SUCH AS EAR PUNCH (HE MAY USED THE CHART ON PAGE 30-

OF THE TRAINING MANUAL), DYE, EAR TAG, RECORDING THE ANIMAL'S NATURAL COLORS, OR TATTOO.

(ACT AS YOU DID EARLIER IF THE STUDENT DOES SOMETHING INCORRECTLY.)

IF AT ANY POINT IN THE ABOVE SEQUENCE THE STUDENT BEGINS TO HANDLE THE ANIMAL IN A WAY THAT MAY BE DANGEROUS TO THE STUDENT OR PAINFUL TO THE ANIMAL, GENTLY STOP HIM. EXPLAIN WHAT MAY HAPPEN DOING IT THE WAY HE WAS, AND GO BACK TO THE PRACTICE EXERCISE.

REPEAT THE EXERCISE FOR EACH OF THE REMAINING STUDENTS.

AS EACH STUDENT FINISHES CORRECTLY, SIGN HIS LESSON CERTIFICATE.

Instructor:

Before meeting with Students, do the following (check when done):

- ☐ Review the Practice and Mastery Exercises at the end of this Lesson.
- ☐ Review the A-V Lesson.
- ☐ Make notes regarding any facility differences (procedures that differ from those shown in the A-V presentation). Space is provided on the left-hand pages of this manual.
- ☐ Prepare an area for the Practice and Mastery sessions.

Only after you have done all of the above:

- ☐ Have the Student view the A-V as many times as he likes.
- ☐ Take the Student to the appropriate area so he can practice the skills described on the practice sheet.
- ☐ When you feel that the Student has mastered the material, take the Mastery Exercise sheet and follow directions exactly as written.

Lesson 29

RECEIVING LARGE ANIMALS

SCHEDULE CHART

☐ VIEW Audio-visual Demonstration Exercise, summarized on pages 29-1 through 29-11, in Room __________. View it as many times as you want.

☐ MEET ____________________ (Instructor) at __________ (time) on __________ (date) in ____________________ (room and bldg.) _____ for Practice and Mastery Exercises.

☐ RECEIVING large animals is a job for TWO technicians,

- one to restrain
- one to sex, identify, inject

☐ Animals are given SHOTS for disease protection.

☐ A DOG might get a RABIES shot and DISTEMPER-HEPATITIS vaccine.

☐ MONKEYS are QUARANTINED automatically for at least 6 weeks.

☐ DOGS, CATS, or FARM ANIMALS may be QUARANTINED if the vet so advises.

☐ The VET usually looks at PRIMATES immediately, the other animals a bit later.

☐ The TECHNICIAN inspects animals ON RECEIPT, looking for signs of disease.

In addition:

Most monkeys acquired by laboratories have recently come from the wild. Therefore

- The animal will not be used to handling.
- It may be carrying a disease that can affect man.

Instructor:

☐ How are dogs processed at receipt in your facility?

☐ BEFORE the animals arrive, PREPARE the receiving area with

- clean cages
- feed
- water

☐ DOGS arrive by TRUCK and are transferred to a HOLDING PEN or area.

☐ DOGS usually arrive in NUMBERS, though occasionally there will be a single animal on a special order.

☐ The technician, wearing GLOVES, leads ONE dog AT A TIME into each pen or run, holding it at the neck.

☐ Each shipment is accompanied by a USDA FORM, required by law, telling the number, kind, sex, and so forth of the animals.

☐ The form must be CHECKED against the animals in the shipment, one by one.

☐ COUNT the total number of animals.

☐ Get IDENTIFICATION TAGS AND COLLARS READY, placing the tags in order if they are numbered.

☐ Get the material for the INJECTIONS READY: bottles of vaccine, syringes.

☐ ONE DOG at a time is now taken FROM the holding PENS.

☐ The dog is led out on a LEASH.

☐ SMALLER dogs may be picked up and CARRIED.

☐ Each dog gets a COLLAR.

☐ Keep TWO FINGERS between the collar and the animal's skin to make sure that the collar is NOT too TIGHT.

☐ An ID TAG is clamped to the collar with special pliers.

☐ All previous tags are REMOVED. They must be RETAINED for a prescribed length of time.

☐ The animal's NUMBER in the facility is written on the FORM.

☐ CHECK the FORM after the number is written to make sure that the right animal has been tagged.

☐ Identifying the animal means SEXING it, among other things.

☐ It also means WEIGHING the animal, not guessing, because hairy dogs can fool you.

☐ Make sure the dog is ALL THE WAY ON the scales.

☐ CHECK the weight against the form. They should agree.

☐ If they do not agree, if the difference in weight is only a few pounds, change the information on the form.

☐ However, the BREED or PHYSICAL DESCRIPTION must be correct.

☐ Breed indicates the KIND of dog, such as collie, german shepherd, or the like.

☐ ABBREVIATIONS are used, as G.S. for german shepherd.

☐ If the dog is a MONGREL, XX is used.

☐ The RABIES shot is INTRAMUSCULAR, in the thigh.

☐ One tech RESTRAINS the dog, one INJECTS.

☐ The DISTEMPER-HEPATITIS shot is SUBCUTANEOUS. Again, two technicians work together.

☐ ANTIBIOTIC shots are INTRAMUSCULAR.

☐ If a PILL has to be given,

- hold the dog's jaws open
- put the pill way back in the mouth
- let go the mouth and then hold it closed
- stroke the dog's throat to make swallowing easier

☐ DOGS and CATS get PILLS for WORMS.

☐ The technician should check the animals for FLEAS and TICKS.

☐ Animals with fleas and ticks are SPRAYED, except in the face.

☐ Check the GENERAL APPEARANCE of the animal.

☐ Watch for any SIGN OF DISEASE or something OUT of the ordinary:

- discharges
- scratches
- limping
- shaking
- pregnancy
- ringworm

☐ If the animal is HOSTILE or hard to manage, MARK that on the FORM.

☐ SICK dogs go to ISOLATION. The vet should be NOTIFIED.

☐ The other dogs go to CAGES or PENS, one to a cage, two or three to a pen.

☐ Each PEN is NUMBERED on the outside.

☐ Fill out a CAGE CARD for every dog or cat that goes to a cage.

☐ Then FEED AND WATER the animals.

☐ Follow the REGULAR procedure.

☐ Then CLEAN UP the processing site:

- hose out the holding pens
- clean up the scales
- break the used syringes and throw them out
- turn the USDA form in to the office

Instructor:

☐ How are cats processed at receipt in your facility?

☐ The procedure for receiving CATS is much the SAME as for the DOG.

☐ Cats are RECEIVED in CAGES from the pound, or in SHIPPING CONTAINERS from a vendor.

☐ Cats are TRANSFERRED one by one to HOLDING or TRANSPORT cages.

☐ The area should be ENCLOSED so if a cat gets loose it can't escape.

☐ COUNT the number of cats received and CHECK the number against the order.

☐ Cats are accompanied by the same USDA FORM used for dogs.

☐ If the information is CORRECT and is COMPLETELY FILLED OUT, SIGN it.

☐ If not, COMPLETE the form and then SIGN it.

☐ A cat must be DOCILE. If the cat seems unmanageable, SET IT ASIDE. It will NOT be used.

☐ If kept, give the cat a NUMBER, which is written on a plastic COLLAR (or a TAG attached to a collar) and placed around the cat's NECK.

☐ This number is entered on the CAT CARD or any similar record kept by the facility.

☐ Then INSPECT the cats.

☐ Note any signs of APPARENT ILLNESS. RECORD these on the cat card.

☐ All cats will be processed, but a VETERINARIAN will come to look at the "sick" ones.

☐ Each cat may be VACCINATED. One technician restrains the animal for this procedure.

☐ The cat is DUSTED for fleas or ticks if any are present.

☐ BLOOD is taken or additional MEDICATION is given if the investigator has requested it.

☐ The cat is WORMED by pill if necessary.

☐ CLEAN the processing area.

☐ Break and dispose of SYRINGES.

☐ The cat is then taken by CARRYING CAGE to the cage assigned to it.

☐ Check the CAGE to make sure it is CLEAN and COMPLETE and has BEDDING.

☐ The CAGE CARD is filled out with the cat's ID NUMBER, the INVESTIGATOR'S NAME, and the DATE OF the cat's ARRIVAL.

☐ The CARD is ATTACHED to the cat's cage.

☐ The cat is TRANSFERRED from the carrying cage to the assigned cage.

☐ FEED and WATER are given to the cat.

☐ WASH HANDS before leaving the room.

☐ The carrying cage must be SANITIZED.

☐ Turn in the CAT CARD and the ORDER FORM at the OFFICE.

Instructor:

☐ How are non-human primates processed at receipt in your facility?

☐ MONKEYS are automatically QUARANTINED.

☐ CHECK them BEFORE you take them out of the shipping crate.

☐ Watch for loose feces, running noses, injuries from fighting, and so forth.

☐ The VET will usually be PRESENT.

☐ WASH HANDS with soap.

☐ WEAR PROTECTIVE CLOTHING: gown, face mask, gloves, boots, hat.

☐ Make sure all DOORS are LOCKED.

☐ CHECK the order FORM.

☐ TWO people, working together:

  * lift the shipping crate to the cage
  * make a door-to-door transfer without handling the monkey
  * if two animals get into one cage, use the squeeze mechanism to get one back into the crate.
  * then put it into the next cage
  * padlock the cage as soon as the monkey is in it.

☐ When all the monkeys are caged, FEED AND WATER them.

☐ Put a CARD on each CAGE.

☐ EXAMINE and IDENTIFY ALL animals.

☐ DOUBLE-CHECK the vendor's COUNT of all animals.

☐ Sometimes the vet will want to wait for the animals to CALM DOWN before going on to the next step. Let them get used to their cages.

Instructor:

☐ How are farm animals processed at receipt in your facility?

☐ Monkeys are TRANQUILIZED through the front of their squeeze cages before they are processed.

☐ A BLOOD SAMPLE and a RECTAL SWAB may be taken.

☐ Each monkey gets a TUBERCULIN, or TB, test.

☐ The reaction will occur within THREE DAYS.

☐ The eyelid gets very SWOLLEN , if the animal has tuberculosis (TB).

☐ The monkey, while tranquilized, is TATTOOED on the chest.

☐ REMOVE HAIR from the site with clippers.

☐ Rub ACETONE over the area to remove skin oil.

☐ One tech holds the skin TIGHT while the other tattoos the numbers.

☐ Put a GAUZE PAD with petroleum jelly over the tattoo; it holds the ink in.

☐ The number, sex, date of arrival, and so on are all RECORDED on a facility form.

☐ One FORM for each animal is filled out and turned in to the OFFICE.

☐ If the vet has ordered a BLOOD SAMPLE or special MEDICATION, that information goes on the FORM.

☐ After processing the area is CLEANED UP.

☐ The monkeys remain IN QUARANTINE at least SIX WEEKS.

☐ FACE MASKS and GOWNS are always worn in the monkey area.

☐ A TRANSPORT CAGE, with a handle on top, is used to move a monkey to another area.

☐ The animals are TRANSFERRED from one cage to another by operating the "GUILLOTINE" doors at the same time.

☐ If the animal does not move readily, the SQUEEZE MECHANISM is used.

Instructor:

☐ In receiving sheep, goats and pigs, pick up the copy of the animal card and the ear tag numbered to correspond with the office record. These are prepared on the date of anticipated arrival of the animals. Note any specific instructions regarding feeding or care.

☐ The supervisor assigns a room number to the animals and conveys this information to the technician.

☐ Special pliers for ear punching are ready; ectoparasite powder is also ready, as is a transport cart.

☐ When the animal is delivered at the loading dock, the technician transfers the animal to a transport cart for removal to its assigned room, or a holding pen for examination. Be extra gentle with a pregnant ewe.

☐ Match delivery ticket with office order. If they match, sign. Check the sex of the animal.

☐ Upon request of the investigator, the animal is weighed, a blood sample is obtained, and medication is given by a senior technician or veterinarian.

☐ The animal is dusted with ectoparasitic powder.

☐ The technician moves the animal from its pen and places it in a transport cart for delivery to the assigned room.

☐ Follow the appropriate traffic pattern.

☐ To remove the animal from the transport cage, open the door to the assigned pen and move the transport cart directly in front of the pen door. When the door of the transport cart is opened, the animal can be moved directly into the pen.

☐ Push the transport cart away and shut the pen door.

☐ After housing, the cage card is attached to the pen door. Change the inventory records in the room.

☐ The transport cart is removed to the hallway for pick-up by the wash crew.

☐ Bedding is swept from the floor and then mop floor with disinfectant.

☐ The office card, signed and dated, is given to the supervisor or the office.

☐ If it was used, the holding pen is hosed down.

☐ FARM ANIMALS may arrive one at a time or in a group.

☐ The animal is inspected, weighed, and sexed, CHECKING the information against the ORDER form.

☐ It is given an IDENTIFYING MARK, usually a numbered TAG, attached to the EAR with pliers.

☐ TWO people work together, one to restrain the animal, the other to tag it.

☐ It takes two to give an INJECTION, also, with a dose syringe.

☐ The SHEEP is moved to its assigned area in a TRANSPORT CART.

☐ A CAGE CARD is filled out and attached to the PEN.

☐ A RECORD is turned in to the OFFICE for sheep, goats, pigs.

☐ For POULTRY, adult birds are LEG-BANDED.

☐ They go into SUSPENDED CAGES.

☐ DAY-OLD CHICKS go into BROODERS and are given identifying marks only at the request of the investigator.

☐ Remember:

- * OBSERVE safety precautions

  These are STRANGE animals and you don't know them yet.

- * Fill out ALL forms.

  DOUBLE-CHECK them.

CAGE CARD

INVESTIGATOR ____________________

DEPT. AND/OR ACCOUNT NO. ____________________

STRAIN ____________ BORN ____________

SEX ______ WT. ________ ANIMAL # ____________

VENDOR ____________ DATE REC. ____________

CAGE # __________ NO. IN CAGE ________ RM. ______

Cage Card for Nesting Cage

____

(INVESTIGATOR)

____

(DEPARTMENT OR ACCOUNT NO.)

STRAIN ____________________

BORN ____________ SEX ________

WT. ____________ ANIMAL# ________

VENDOR ____________________

DATE REC'D ____________________

NO. IN CAGE ________ RM. # ________

CAGE CARD

Cage Card for Suspended Cage

DOG CARD

Investigator____________________ Facility #________ USDA #________

Account #____________________ Run #____ Age (check) Young__ Adult__

Dept.____________ Phone________ Weight____ Type__________

Invoice #______ Date assigned______ Source__________ Date______

Person notified________________ Condition________________

Anticipated sacrifice date________ Remarks________________

(Cage assignments and use dates)

Disposition____________________________ Date________

A Sample Facility Record Card for Dogs

29-14

CAT CARD

(OFFICE)

Investigator____________________

Department____________________

Phone____________________

Account #____________________

Requested by__________Date__________

Date Assigned____________________

Person Notified____________________

Purchase recharged____________________

(VIVARIUM)

Order Request

Earliest Date of Assignment__________

Weight__________Sex__________

Other____________________

Source____________________

Order Filled

Source____________________

Date of Arrival____________________

Weight__________Sex__________

Disposition__________Date__________

A Sample Facility Record Card for Cats

PRIMATE CARD

Investigator ____________________

Department ____________________

Phone ____________________

Account # ____________________

Requested by __________ Date __________

Person Notified ____________________

	(Amount)	(Recharged)
Price		
Tax		
Freight		

Disposition ____________________

Species ____________________

Weight __________ Sex __________

Other ____________________

Requested Date of Arrival __________

Vendor ____________________

Date of Arrival ____________________

Permit # ____________________

Identifying Features ____________________

Date ____________________

A Sample Facility Record Card for Primates

SHEEP GOAT PIG 29-16

Investigator ____________________

Department ____________________

Account # ____________________

Extension ____________________

Person Placing Order ____________________

Date of Order ____________________

Vendor ____________________

Other ____________________

Other ____________________

	YES	NO	N/A
Sex ____________	☐	☐	☐
Weight ____________	☐	☐	☐
Age ____________	☐	☐	☐
Housing ____________	☐	☐	☐
Health ____________	☐	☐	☐
Ear Tag Placed ________	☐	☐	☐
Other ____________	☐	☐	☐
Other ____________	☐	☐	☐
Other ____________	☐	☐	☐

Order Clerk ____________________ Date of Arrival ________ Initials ________

Disposition ____

A Sample Facility Record Card for Sheep, Goat, or Pig

FORM APPROVED: BUDGET BUREAU NO.

U. S. DEPARTMENT OF AGRICULTURE – AGRICULTURAL RESEARCH SERVICE

RECORD OF DISPOSITION OF LABORATORY ANIMALS

SALE ☐ EXCHANGE OR TRANSFER ☐

1. DATE OF DISPOSITION	2. DEALER'S LICENSE NO. OR RESEARCH FACILITY REGISTRATION NO.	3. PAGE	4. DEALER'S INVOICE NO.
		1 of	( )

INSTRUCTIONS: Complete applicable items 1 thru 14. Original and one copy to accompany animals. When delivery is made – items 15 and 16 must be completed. Original retained by Buyer (Receiver) and copy returned to Dealer (Seller or Donor). Attach Continuation Sheet (ANH 18-6A) as needed.

5. NAME AND ADDRESS OF BUYER (Receiver) (Include Zip Code)

6. NAME AND ADDRESS OF DEALER (Seller or Donor) (Include Zip Code)

DESCRIPTION CODES (Insert in applicable Col's. D thru H below)

BREED TYPE (Col. D)	EARS (Col. E)	HAIR (Col. F)	TAIL (Col. G)	COLOR (Col. H)	
1 - Mongrel	1 - Short	1 - Short	1 - Short	1 - Black	8 - Black & White
2 - Beagle	2 - Long	2 - Long	2 - Long	2 - White	9 - Black, White & Brown
3 - Hound	3 - Cropped	3 - Curly	3 - Curled	3 - Brown	10 - Black and Tan
4 - Labrador	4 - Upright	4 - Other (Specify)	4 - Cut	4 - Red	11 - Brown and White
5 - Boxer	5 - Drooped		5 - Straight	5 - Tan	12 - Brown and Black
6 - Terrier	6 - Other (Specify)		6 - Bushy	6 - Grey	13 - Liver and White
7 - Collie			7 - Other (Specify)	7 - Tiger	14 - Yellow or Orange
8 - German Shepherd					15 - Other (Specify)
7 - Other (Specify)					

7. IDENTIFICATION OF EACH ANIMAL BEING DELIVERED

TAG NO. OR TATTOO	SEX (M-F)		AGE		DESCRIPTION CODES (Above)					EST. WEIGHT (Lbs.)	REMARKS (Condition, etc.)	RESEARCH FACILITY USE ONLY		
	DOG	CAT	Young	Adult	BREED	EARS	HAIR	TAIL	COLOR			NO. ASSIGNED BY FACILITY		
A	B		C		D	E	F	G	H	I	J	K	L	M

8. SIGNATURE OF DEALER, SELLER, OR DONOR (Or authorized representative)

9. DATE SIGNED

10. DELIVERY BY BUYER'S TRUCK ☐ DEALER'S TRUCK (Seller or Donor) ☐

11. TRUCK LICENSE NO

DELIVERY BY COMMERCIAL MEANS

13. NAME OF COMPANY OR FIRM

14. BILL OF LADING NO.

12. NAME AND HOME ADDRESS OF TRUCK DRIVER

DELIVERY RECEIPT

15. RECEIVED BY (Signature)

16. DATE RECEIVED

ANH FORM 18-6 OCT 1967 EXISTING STOCK OF ANH FORM 18-6, JUN 1967, WILL BE USED UNTIL EXHAUSTED

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PRACTICE EXERCISE

LESSON 29

INSTRUCTOR: AFTER THE STUDENTS HAVE VIEWED THE AUDIO-VISUAL DEMONSTRATION EXERCISE FOR LESSON 29, TAKE A COPY OF THE PRACTICE EXERCISE TO THE ROOM(S) IN WHICH THE PRACTICE EXERCISE WILL BE HELD.

SHOW EACH STUDENT THE USDA FORM (OR ORDER FORM). EXPLAIN ITS USE AND SHOW HOW TO FILL IT OUT, CHECKING IT AGAINST A SHIPMENT OF LARGE ANIMALS.

DISCUSS AND DEMONSTRATE THE METHOD OF PROCESSING THE DIFFERENT ANIMALS IN THIS LESSON, INCLUDING HOW TO FILL OUT THE NECESSARY FORMS AND CARDS.

DEMONSTRATE THE METHOD FOR FLEA DUSTING AND FOR GIVING A WORM CAPSULE TO A CAT OR DOG.

DEMONSTRATE THE VARIOUS IDENTIFICATION METHODS USED ON THE ANIMALS IN THIS LESSON.

AS SOON AS YOU FEEL THAT THE STUDENTS HAVE LEARNED THE NECESSARY SKILLS FOR THIS LESSON, YOU CAN GO ON TO THE MASTERY EXERCISE. UNTIL THAT TIME, CONTINUE ALLOWING THEM TO PRACTICE, HELPING THEM AS NEEDED.

INSTRUCTOR: AFTER THE STUDENTS HAVE COMPLETED THE PRACTICE EXERCISE FOR LESSON 29, TAKE A COPY OF THE MASTERY EXERCISE AND GO TO THE ROOM(S) IN WHICH THE MASTERY EXERCISE WILL BE HELD.

SAY "We are going to check out and process an incoming shipment of large animals. Please wait outside the room until I call you in, one at a time."

GO INTO THE ROOM WITH THE FIRST STUDENT. LEAVE THE REMAINING STUDENTS OUTSIDE THE ROOM.

GIVE THE STUDENT A USDA FORM (OR ORDER FORM), AND SAY "Please check that shipment of animals against this form. Fill out the form to match the shipment."

IF THE STUDENT SHOULD DO SOMETHING INCORRECTLY,DON'T SAY ANYTHING RIGHT AWAY. WAIT FOR A MINUTE TO GIVE HIM A CHANCE TO CHANGE HIS ANSWER.

IF HE STILL DOESN'T KNOW THE RIGHT ANSWER, REPEAT THE PRACTICE EXERCISE WITH HIM. THEN COME BACK TO THE MASTERY EXERCISE, TO MAKE SURE THAT HE HAS MASTERY OF THE SKILL BEFORE YOU GO ON.

WHEN THE STUDENT GIVES A RIGHT ANSWER SAY "good" OR "right."

SAY "Process this animal (dog, primate, sheep, or chicken). See that the proper forms and cards are filled out."

(ACT AS YOU DID EARLIER IF THE STUDENT DOES ANYTHING INCORRECTLY.)

SAY "Give this dog a worm capsule."

(ACT AS YOU DID EARLIER IF THE STUDENT DOES ANYTHING INCORRECTLY.)

IF AT ANY POINT IN THE ABOVE SEQUENCE THE STUDENT BEGINS TO HANDLE THE ANIMAL IN A WAY THAT MAY BE DANGEROUS TO THE

STUDENT OR PAINFUL TO THE ANIMAL, GENTLY STOP HIM. EXPLAIN WHAT MAY HAPPEN DOING IT THE WAY HE WAS, AND GO BACK TO THE PRACTICE EXERCISE.

SAY "PLEASE TATTOO THE PROPER IDENTIFICATION OF THIS ANESTHETIZED PRIMATE."

REPEAT THE EXERCISE FOR EACH OF THE REMAINING STUDENTS.

AS EACH STUDENT FINISHES CORRECTLY, SIGN HIS LESSON CERTIFICATE.

Instructor:

Before meeting with Students, do the following (check when done):

- ☐ Review the Practice and Mastery Exercises at the end of this Lesson.
- ☐ Review the A-V Lesson.
- ☐ Make notes regarding any facility differences (procedures that differ from those shown in the A-V presentation). Space is provided on the left-hand pages of this manual.
- ☐ Prepare an area for the Practice and Mastery sessions.

Only after you have done all of the above:

- ☐ Have the Student view the A-V as many times as he likes.
- ☐ Take the Student to the appropriate area so he can practice the skills described on the practice sheet.
- ☐ When you feel that the Student has mastered the material, take the Mastery Exercise sheet and follow directions exactly as written.

Lesson 30

GNOTOBIOLOGY AND BREEDING COLONIES

SCHEDULE CHART

☐ VIEW Audio-visual Demonstration Exercise, summarized on pages 30-1 through 30-6, in Room __________. View it as many times as you want.

☐ MEET ____________________ at __________ on __________
Instructor time date

in _________________________ for Practice and Mastery
room and bldg.
Exercises.

Instructor:

☐ What types of gnotobiotic animals are housed in your facility?

☐ What does the animal technician need to know about working with them?

☐ Sometimes animals that have been SPECIALLY RAISED are called for in experiments.

☐ There are generally THREE levels of environmental control of these animals:

- germ free
- pathogen free
- specific pathogen free

☐ The SCIENCE by which animals are bred, housed, and handled so that the exact type of germs to which they have been exposed is known is called GNOTOBIOLOGY.

☐ The least biological control is over SPF animals. The initials stand for "SPECIFIC PATHOGEN FREE."

☐ A PATHOGEN is a disease-carrying germ, so these animals have never been exposed to CERTAIN KINDS of germs.

☐ The next type is PATHOGEN FREE.

☐ These animals are free of all DISEASE-CARRYING germs, have never had contact with any pathogen.

☐ The third kind are free of all germs, whether disease-causing or not.

☐ To set up and maintain a GERM-FREE ATMOSPHERE, these steps are followed:

- Technicians SHOWER and put on SPECIAL CLOTHING before entering pathogen-free or SPF rooms.
- Keys, papers, pencils, ANYTHING that might carry germs is kept out of these rooms.
- The room in which the tech showers and changes clothing is called the ENTRY LOCK.
- In leaving, the technician goes into a corridor through an EXIT HATCH, and then back into the entry lock.
- A PHYSICAL BARRIER is set up around the animal room to keep pathogens out.
- ALL MATERIALS for the animal room must go through the barrier system:
    * feed
    * bedding
    * equipment
    * clothing
- Everything is sterilized in an AUTOCLAVE, or a chemical DUNK-TANK, or by ULTRAVIOLET LIGHT.
- SECURITY for this SPF or pathogen-free system must be TIGHT or the animals will become contaminated.

☐ The technician must KNOW what to do

- when an ALARM goes off, as for the ventilation system
- to ADJUST AIR PRESSURE in entry and exit areas and in the animal room
- to bring CLEAN MATERIALS into the animal room
- to take DIRTY materials out through the proper exit

☐ **GERM**-FREE animals are kept in ISOLATORS, air-tight chambers.

☐ Even the AIR pumped into the isolator is FILTERED, so it contains no germs.

☐ Feed, water, or materials for the isolator are first **AUTOCLAVED**.

☐ Things within the isolator are reached and HANDLED through GLOVES permanently attached to the side of the isolator.

☐ The animals are always within the CONTROLLED atmosphere.

☐ The technician must KNOW, among other things:

- how to STERILIZE an ISOLATOR
- how to SET one UP
- how to set up an AIR FILTER for the isolator
- how to STERILIZE MATERIALS
- how to PLACE sterilized **material** in the isolator
- how to **MOVE** animals and equipment within the isolator
- how to REMOVE materials from the isolator
- how to CHECK for isolator LEAKAGE
- how to move animals OUTSIDE the isolator without exposing them to pathogens

Instructor:

☐ What kind of breeding colonies does your facility operate?

☐ What does the animal technician need to know about the operation of the breeding colonies?

☐ A BREEDING COLONY is an area designed for animals to mate and breed.

☐ Such areas are set up not only to get MORE ANIMALS for experiments but also sometimes to find out if a DRUG or a TREATMENT AFFECTS the parents' offspring.

☐ There are several KINDS of breeding:

- * INBREEDING, the breeding of close relatives to BRING OUT certain family CHARACTERISTICS. After a time, the resemblances become so strong that the family is known as an INBRED STRAIN.
- * RANDOM BREEDING, the breeding of animals in the colony, carefully selecting mates to SPREAD CHARACTERISTICS throughout the whole colony or group.

☐ When breeding is kept WITHIN a colony, it is called a CLOSED COLONY.

☐ When animals are BROUGHT IN from other colonies, it is called an OPEN COLONY.

☐ Outside animals BRING IN CHARACTERISTICS that may be missing within the colony.

☐ They can also BRING IN DISEASES.

☐ Other breeding systems may depend on the PROPORTION of MALES TO FEMALES.

☐ The normal system is ONE male to ONE female.

☐ Another system has SEVERAL females to ONE male, which requires LESS SPACE for the breeding colony.

☐ The technician working in a BREEDING AREA should have a good understanding of the BIOLOGY of MATING.

☐ He should recognize when an animal is in HEAT, and he should know the ESTROUS CYCLE.

☐ He should recognize when MATING has occurred.

☐ For example, one way would be to recognize the VAGINAL PLUG on the cage floor.

☐ The vaginal plug is formed in the rat's vagina AFTER MATING and is later DISCHARGED.

☐ Other ways include actually SEEING the ACT OF MATING or FEELING SIGNS OF PREGNANCY.

☐ The technician knows the animals' GESTATION period, the length of pregnancy leading up to birth.

☐ He knows what happens when an animal GIVES BIRTH.

☐ He knows how animals NURSE their young.

☐ The technician in a breeding colony must have a ROUTINE, must be consistent, so that animals know what to expect.

☐ Otherwise they may GET UPSET and fail to bear young.

☐ AVOID making loud noises.

☐ Keep the area's temperature, humidity, and lighting at the required LEVELS.

☐ Proper FEED, especially for pregnant or nursing animals, must be provided.

☐ NO CHEMICALS should be stored in the room. For example, some chemicals, like chloroform, cause male mice to become sterile, unable to breed.

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☐ The technician must keep RECORDS for each animal:

- its number
- who its parents were
- when it was born
- who it was mated to
- when it was mated
- who its offspring were
- what sex each of its offspring was

☐ These records are kept of FILE so that the FAMILY HISTORY of the laboratory animals is known.

Appendix to Lesson 30

BREEDING COLONIES AND ANIMAL MATING

To maintain proper care in a breeding colony:

Clean on a predetermined schedule. An animal can adapt to routine and will not be disturbed by the technician performing necessary tasks.

Perform tasks quietly. Avoid loud noise.

Time work. If a female is due to deliver tomorrow it would be better to clean her cage today, so you won't have to disturb her for a week after she gives birth.

Make sure that chemicals are not stored in the room.

Provide special care for the pregnant female.

The pregnant or the nursing female requires additional food in the diet.

Shortly before birth, animals who use them should be provided with nesting materials.

Rodents make nests from their bedding.

Rabbits need a nest box and usually line it by pulling out some of their own hair.

A dog or cat simply needs a box with a clean cloth to make a nest.

Rodents are generally born at night.

In large animals the female about to give birth should be watched for trouble. Nervousness, intense nest-making, cries of pain caused by abdominal contractions (this is called labor), are signs that birth is near. If the female shows signs of labor for more than an hour, if the young are seen at the vulva for more than ten minutes without being pushed out, or if the female after showing signs of being in labor is suddenly quiet and weak, she may be in trouble. Call for a veterinarian or your supervisor immediately.

If the technician is to work with animals, especially in a breeding colony, he must understand the biological basis of animal mating.

All female mammals, with the single exception of human beings, will mate only when they are in heat, which is also called estrus. When the eggs have been made in the body of the female and they have been released (or are held ready to be released, as in the rabbit and the cat), a female hormone called estrogen is secreted or discharged from the animal's ovary. This affects her body in such a way that it causes here to desire mating, and she is said to be in heat (or estrus). If the eggs are released but not fertilized by a male, they are absorbed by the female's body. She will rest and then produce more eggs, to try again to get one fertilized. This cycle continues over and over throughout the female's life. It is called the estrous cycle.

The cycle occurs more frequently in some animals than others, and it lasts for a different length of time in each animal. In rodents, estrus occurs every four to five days. In the cow, estrus occurs every twenty-one days; and in the dog, every six months. The estrous period is the length of time the animal is actually in estrus.

If the animal becomes pregnant, this cycle stops. Larger animals like dogs and cats do not start the estrous cycle again until after the young no longer take milk from their mother. Rodents, however, have an estrous period within a few hours after giving birth and can be mated again. This early estrus is called the postpartum estrus. Because of the postpartum estrus, a rodent is capable of giving birth to a new litter sooner than would be possible if it was necessary to wait until after weaning to breed her.

The period of time between mating and giving birth -- 21 days in the mouse and rat -- is called the gestation period.

The age at which a male or female animal becomes mature sexually and is able to breed is called puberty. When the egg in the female has been fertilised, she is said to be pregnant. The estrous cycle stops for a specific length of time, called the gestation period, while the baby is forming in the pregnant female. Then parturition (the act of giving birth) takes place. The mother nurses her young by providing milk from her teats. The young are weaned when they no longer take milk from the mother, preferring solid food. It is at this point that all but the smaller mammals (mice, rats, and so forth) resume the estrus cycle. These smaller animals, of course, have already begun the cycle with a postpartum estrus.

BREEDING DATA

SPECIES	AGE AT PUBERTY	ESTRUS CYCLE	GESTATION PERIOD	WEANING AGE OF YOUNG
Mouse	35-40 days	4-5 days	21 days	21 days
Rat	60-72 days	4-5 days	21 days	21 days
Guinea pig	3-4 months	16-19 days	63 days	14 days
Rabbit	5 months	ovulation stimulated by mating	31 days	56 days
Hamster	30 days	4 days	16 days	21 days
Rhesus monkey (female) (male)	2½ years 3-4 years	28 days	159-174 days	4 months
Cat	6 months	15-28 days (seasonally)	63 days	6 weeks
Dog	6 months	180 days	63 days	6 weeks
Goat	7-8 months	21 days (seasonally)	150 days	3 months
Pig	6-7 months	21 days	115 days	2 months

SOURCE: D'Ver, Hauser, and Armstrong, *The Assistant Animal Technician Manual.* Nutley, N.J.: Hoffman-La Roche Inc.

PRACTICE EXERCISE

LESSON 30

INSTRUCTOR: AFTER THE STUDENTS HAVE VIEWED THE AUDIO-VISUAL DEMONSTRATION EXERCISE FOR LESSON 30, TAKE A COPY OF THE PRACTICE EXERCISE TO THE ROOM(S) IN WHICH THE PRACTICE EXERCISE WILL BE HELD.

DISCUSS WITH EACH STUDENT THE PURPOSES OF PATHOGEN-FREE, SPECIFIC PATHOGEN-FREE, GERM-FREE, AND BREEDING ANIMALS, AND THE SPECIAL PRECAUTIONS NECESSARY TO AVOID CONTAMINATING THE AREAS IN WHICH THESE ANIMALS ARE HOUSED.

DEMONSTRATE THE PROCEDURES FOR CLEANING, FEEDING AND WATERING ANIMALS IN EACH OF THESE SPECIAL ENVIRONMENTS, AS THEY EXIST IN YOUR FACILITY.

BE SURE TO EXPLAIN AND DEMONSTRATE THE MEANS OF STERILIZING MATERIALS TO BE TAKEN INTO AN AREA AND THE METHOD BY WHICH MATERIALS ARE REMOVED FROM SUCH AN AREA.

DISCUSS WITH EACH STUDENT WHAT FUTHER TRAINING HE WOULD LIKE TO OBTAIN. SUBJECTS MIGHT INCLUDE: MANAGEMENT OF QUARANTINE AND ISOLATION PROGRAMS, SURGICAL ASSISTANCE, RADIOGRAPHIC TECHNOLOGY, ANESTHESIOLOGY, SUPERVISORY TECHNIQUES AND SO ON. THESE COULD BE AVAILABLE THROUGH FACILITY PROGRAMS, LOCAL AALAS COURSE, VOCATIONAL SCHOOLS, COMMUNITY OR FOUR YEAR COLLEGES OR OTHER INSTUTUTIONS OF TRAINING. YOU AND THE STUDENT SHOULD AGREE ON A CONTINUING TRAINING PROGRAM.

AS SOON AS YOU FEEL THAT THE STUDENTS HAVE LEARNED THE NECESSARY SKILLS FOR THIS LESSON, YOU CAN GO ON TO THE MASTERY EXERCISE. UNTIL THAT TIME, CONTINUE ALLOWING THEM TO PRACTICE, HELPING THEM AS NEEDED.

LESSON 30

INSTRUCTOR: AFTER THE STUDENTS HAVE COMPLETED THE PRACTICE EXERCISE FOR LESSON 30, TAKE A COPY OF THE MASTERY EXERCISE AND GO TO THE ROOM(S) IN WHICH THE MASTERY EXERCISE WILL BE HELD.

THE STEPS DESCRIBED SHOULD BE FOLLOWED FOR EACH OF THE FOLLOWING CATEGORIES OF ANIMALS IN YOUR FACILITY: PATHOGEN-FREE, SPECIFIC PATHOGEN-FREE, GERM-FREE, AND MEMBERS OF A BREEDING COLONY.

SAY "WE'RE GOING INTO A ROOM IN WHICH YOU'LL BE ASKED TO CLEAN, FEED AND WATER A SPECIAL GROUP OF (PATHOGEN-FREE, ETC.) ANIMALS. PLEASE WAIT OUTSIDE THE ROOM UNTIL I CALL YOU IN, ONE AT A TIME."

GO INTO THE ROOM WITH THE FIRST STUDENT. LEAVE THE REMAINING STUDENTS OUTSIDE THE ROOM.

POINT TO A GROUP OF EITHER PATHOGEN-FREE OR SPECIFIC PATHOGEN-FREE ANIMALS AND SAY "CLEAN, FEED AND WATER THESE ANIMALS."

IF THE STUDENT SHOULD DO SOMETHING INCORRECTLY,DON'T SAY ANYTHING RIGHT AWAY. WAIT FOR A MINUTE TO GIVE HIM A CHANCE TO CHANGE HIS ANSWER.

IF AT ANY POINT IN THE SEQUENCE, THE STUDENT BEGINS TO DO SOMETHING THAT COULD LEAD TO CONTAMINATION OF THE ANIMALS, GENTLY STOP HIM. EXPLAIN WHAT MAY HAPPEN DOING IT THE WAY HE WAS, AND GO BACK TO THE PRACTICE EXERCISE.

IF HE STILL DOESN'T KNOW THE RIGHT ANSWER, REPEAT THE PRACTICE EXERCISE WITH HIM. THEN COME BACK TO THE MASTERY EXERCISE, TO MAKE SURE THAT HE HAS MASTERY OF TH SKILL BEFORE YOU GO ON.

WHEN THE STUDENT GIVES A RIGHT ANSWER, SAY "GOOD" OR "RIGHT."

REPEAT THE ABOVE PROCEDURES WITH A GROUP OF GERM-FREE ANIMALS, THEN WITH A GROUP OF ANIMALS IN A BREEDING COLONY.

REPEAT THE EXERCISE FOR EACH STUDENT.

AS EACH STUDENT FINISHES CORRECTLY, SIGN HIS LESSON CERTIFICATE AND TELL HIM THAT HE'LL BE RECEIVING A COURSE CERTIFICATE SIGNED BY THE FACILITY DIRECTOR IN A FEW DAYS.

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